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Regulations and Non-Regulatory Revisions to State Implementation Plan: Indiana

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

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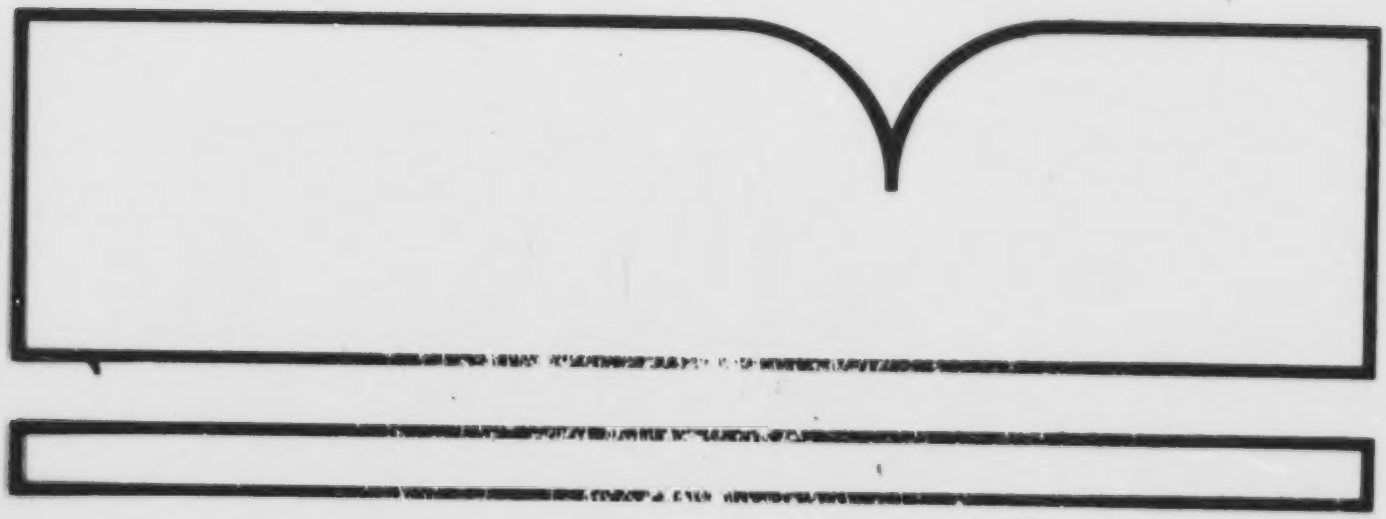

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EPA-450/2-81-034
July 1981

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Regulations and Non-Regulatory Revisions to State Implementation Plan: Indiana

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EPA-450/2-81-034

Regulations and Non-Regulatory Revisions to State Implementation Plan: Indiana

By

Atlantic Environmental Associates, Inc.
59 Vernon Street
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Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

Prepared for

U.S ENVIRONMENTAL PROTECTION AGENCY
Control Programs Development Division
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

July 1981

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16. ABSTRACT

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the Federal Register; regulations promulgated as of August 1, 1981 have been included in this document.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes.

The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.

17. KEY WORDS AND DOCUMENT ANALYSIS

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This report has been reviewed by the Control Programs Development Division of the Office of Air Quality Planning and Standards, EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use. Copies of the entire document are available for inspection and copying at EPA Headquarters (401 M Street SW, Washington, DC 20460), EPA's Office of Air Quality Planning and Standards (Room 826, 411 West Chapel Hill Street, Durham, NC 27701), and the appropriate EPA Regional Offices. Documents containing only the regulatory portions of each State Implementation Plan may be ordered for a nominal fee from the National Technical Information Services, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document

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* Regulations and Non-Regulatory Revisions to State Implementation Plan: Indiana, EPA-450/2-80-021, prepared under contract 68-02-3388, July 31, 1980.

according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF INDIANA SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
None	- - -	-	No revisions were approved during this period.

TABLE OF CONTENTS

STATE REGULATIONS

Revised Standard Subject Index	Section Number	Title	Page
(2.0)		Preface	1
(1.0)		Definitions	1
(51.13)	Regulation APC 2	Open Burning	7
(7.0)(50.1.2)	Regulation APC 3	Visible Emissions and Malfunctions Limitation 11	8
(2.0)	Section 1	Limitation	8
(2.0)	Section 2	Temporary Exceptions from Compliance	9
(2.0)	Section 3	Violation of other Regulations	9
(7.0)	Section 4	Malfunctions	10
(10.0)	Section 5	Federal New Source Performance Standards	11
(51.5)	Regulation APC 4-R	Combustion for Indirect Heating	12
(50.1.1)	Regulation APC 5	Process Operations	15
(51.4)	Regulation APC 6	Existing Foundries	17
(51.9)	Regulation APC 7	Incinerators	18
(9.0)	Regulation APC 8	Continuous Emission Monitoring	20
(8.0)	Regulation APC 12-R	Air Pollution Episode Alert Levels and Actions for the State of Indiana	30
(50.2)	Regulation APC 13	Standards for Sulfur Dioxide Emissions for all Stationary Sources	31
(50.2)	Regulation APC 13	Maximum Allowable Sulfur Dioxide Emissions	39
(4.0)	Regulation APC 14	Ambient Air Quality Concentrations for Sulfur Dioxide; Particulate Matter; Carbon Monoxide; Photochemical	

Revised Standard Subject Index	Section Number		Title	Page
			Oxidants; Hydrocarbons; and Nitrogen Dioxide for the State of Indiana	42
(4.2)		Regulation APC14, Sec.2(A)	Sulfur Dioxide	43
(4.1)		Regulation APC14, Sec.2(B)	Suspended Particulate	43
(4.5)		Regulation APC14, Sec.2(C)	Carbon Monoxide	43
(4.6)		Regulation APC14, Sec.2(D)	Photochemical Oxidants	44
(4.4)		Regulation APC14, Sec.2(E)	Hydrocarbons	44
(4.3)		Regulation APC14, Sec.2(F)	Nitrogen Dioxide	44
(50.4)(51.16)		Regulation APC 15	Maximum Allowable Hydrocarbon Emissions	46
(50.5)		Regulation APC 16	Maximum Allowable Carbon Monoxide Emissions	52
(50.3)		Regulation APC 17	Maximum Allowable Nitrogen Oxides Emissions	53
(3.0)		Regulation APC 19	Permits	53
(50.1)		Regulation APC 20	Maximum Allowable Fugitive Dust	60
(18.0)		Regulation APC 22	Establish Air Quality Basins and Priority Ratings For Sulfur Dioxide; Particulate Matter; Carbon Monoxide; Photochemical Oxidants/Hydrocarbons; and Nitrogen Dioxide	63

REVISED STANDARD SUBJECT INDEX

1.0 DEFINITIONS

2.0 GENERAL PROVISIONS AND ADMINISTRATIVE PROCEDURES

3.0 REGISTRATION CERTIFICATES, OPERATING PERMITS AND APPLICATIONS

4.0 AIR QUALITY STANDARDS (PRIMARY AND SECONDARY)

- 4.1 PARTICULATES
- 4.2 SULFUR DIOXIDE
- 4.3 NITRIC OXIDES
- 4.4 HYDROCARBONS
- 4.5 CARBON MONOXIDE
- 4.6 OXIDANTS
- 4.7 OTHERS

5.0 VARIANCES

6.0 COMPLIANCE SCHEDULES

7.0 EQUIPMENT MALFUNCTION AND MAINTENANCE

8.0 EMERGENCY EPISODES

9.0 AIR QUALITY SURVEILLANCE AND SOURCE TESTING

10.0 NEW SOURCE PERFORMANCE STANDARDS

11.0 NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS

12.0 MOTOR VEHICLE EMISSIONS AND CONTROLS

13.0 RECORD KEEPING AND REPORTING

14.0 PUBLIC AVAILABILITY OF DATA

15.0 LEGAL AUTHORITY AND ENFORCEMENT

16.0 HEARINGS, COMPLAINTS, AND INVESTIGATIONS

17.0 PREVENTION OF SIGNIFICANT DETERIORATION

18.0 AIR QUALITY MAINTENANCE AREA

19.0 EMISSION OFFSET POLICY

20.0 MAJOR STATIONARY SOURCES

21.0 - 49.0

RESERVED FOR FUTURE EXPANSION OF COMMON INDEX

50.0 POLLUTANT - SPECIFIC REGULATIONS

- 50.1 PARTICULATES

50.1.1 PROCESS WEIGHT

50.1.2 VISIBLE EMISSIONS

50.1.3 GENERAL

50.2 SULFUR COMPOUNDS

50.3 NITRIC OXIDES

50.4 VOLATILE ORGANIC COMPOUNDS

50.5 CARBON MONOXIDE

50.6 ODOROUS POLLUTANTS

50.7 OTHERS (Pb, Hg, etc.)

51.0 SOURCE CATEGORY SPECIFIC REGULATIONS

51.1 AGRICULTURAL PROCESSES (includes Grain Handling, Orchard Heaters, Rice and Soybean Facilities, Related Topics)

51.2 COAL OPERATIONS (includes Cleaning, Preparation, Coal Refuse Disposal Areas, Coke Ovens, Charcoal Kilns, Related Topics)

51.3 CONSTRUCTION (includes Cement Plants, Materials Handling, Topics Related to Construction Industry)

51.4 FERROUS FOUNDRIES (includes Blast Furnaces, Related Topics)

51.5 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - Particulates (includes Fuel Content and Other Related Topics)

51.6 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - SO_2 (includes Fuel Content and Other Related Topics)

51.7 FUEL BURNING EQUIPMENT (oil, natural gas, coal) - NO_2 (includes Fuel Content and Other Related Topics)

51.8 HOT MIX ASPHALT PLANTS

51.9 INCINERATION

51.10 NITRIC ACID PLANTS

51.11 NON-FERROUS SMELTERS (Zn, Cu, etc.) - Sulfur Dioxide

51.12 NUCLEAR ENERGY FACILITIES (includes Related Topic)

51.13 OPEN BURNING (includes Forest Management, Forest Fire, Fire Fighting Practice, Agricultural Burning and Related Topics)

51.14 PAPER PULP; WOOD PULP AND KRAFT MILLS (includes Related Topics)

51.15 PETROLEUM REFINERIES

51.16 PETROLEUM STORAGE (includes Loading, Unloading, Handling and Related Topics)

51.17 SECONDARY METAL OPERATIONS (includes Aluminum, Steel and Related Topics)

51.18 SULFURIC ACID PLANTS

51.19 SULFURIC RECOVERY OPERATIONS

51.20 WOOD WASTE BURNERS

51.21 MISCELLANEOUS TOPICS

51.22 COATING OPERATIONS (Can, Coil, Paper, Fabric, Vinyl, Metal, Wire, Surface Coating)

51.23 CUTBACK ASPHALT

51.24 SOLVENT METAL CLEANING

PREFACE

New installations or new potential sources of air pollution shall, after the effective date of the regulations, meet the specifications and limits contained in the regulations. All persons must comply within one year with Regulation APC 2. Existing installations which are sources of air pollution must within one year submit a program and timetables to comply with Regulations APC 3, APC 4, APC 5, APC 6 and APC 7. The Board may at its discretion grant a variance from the rules or regulations if it finds that:

(1) the emissions occurring or proposed to occur do not endanger or tend to endanger human health or safety; and

(2) compliance with the rules or regulations from which variance is sought would produce serious hardship without equal or greater benefits to the public.

DEFINITIONS

The following terms as used in the Rules and Regulations shall, unless the context otherwise requires, have the following meanings:

AIR CONTAMINANT - Particulate matter, dust, fumes, gas, mist, smoke or vapor, or any combination thereof, but excluding uncombined water.

AIR CONTAMINANT SOURCE - Any and all sources of emission of air contaminants, whether privately - or publicly-owned or operated. Without limiting the generality of the foregoing, this term includes all types of business, commercial and industrial plants, works, shops and stores; and hydrocarbon combustion plants, power generating plants, and steam heating plants and stations, building and other structures of all types, including single and multiple family residences, apartments, houses, office buildings, hotels, restaurants, schools, hospitals, churches, and other institutional buildings, aircraft, automobiles, trucks, tractors, buses and other motor vehicles, garages and vending and service locations and stations, railroad locomotives, ships, boats and other waterborne craft, portable fuel-burning equipment, incinerators of all types, indoor and outdoor, refuse dumps and piles, and all stack and other chimney outlets from any of the foregoing.

AIR POLLUTION - Presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life or to property, or which unreasonably interfere with the enjoyment of life and property.

ASME - The American Society of Mechanical Engineers.

ASTM - The American Society of Testing and Materials.

AUXILIARY FUEL FIRING EQUIPMENT - Equipment to supply additional heat, by the combustion of an auxiliary fuel, for the purpose of attaining temperatures sufficiently high

(a) to dry and ignite the waste material,

(b) to maintain ignition thereof, and

(c) to promote complete combustion of combustible solids, vapors, and gases.

BACKYARD INCINERATION - The burning of material originating on the premises of single and multiple family residences.

BLAST FURNACE - The furnace and equipment used in the smelting process in which primarily oxygen is removed from the ore and molten metal produced with gas as a by-product. The furnace and equipment consist of, but are not limited to, the furnace proper, charging equipment, stoves, bleeders, gas dust catcher, gas-cleaning devices and other auxiliaries pertinent to the process.

BOARD - The Air Pollution Control Board of the State of Indiana.

BASIC OXYGEN FURNACE (BOF) - A furnace in which the melting and refining of iron are accomplished by the high velocity addition of large quantities of high purity oxygen to the atmosphere above the surface of the metal bath. The metal is held in a tiltable vessel with a basic refractory lining. Such a furnace includes furnace proper, oxygen lance, scrap and flux charging units, iron transfer units, gas collecting and cleaning equipment and stacks and any other auxiliaries pertinent to the process.

BRITISH THERMAL UNIT - The quantity of heat required to raise one pound of water from 59 degrees F. to 60 degrees F. (Abbreviated B.T.U., BTU or Btu.)

BY-PRODUCT COKE PLANT - A plant used in connection with the distillation process to produce coke in which the volatile matter is expelled, collected, and recovered. Such plant consists of, but is not limited to, coal and coke handling equipment, by-product chemical plant and other equipment associated with and attendant to the coking chambers or ovens making up a single battery operated and controlled as a single unit.

CARBONACEOUS FUEL - Any form of combustible matter - solid, liquid, vapor or gas, consisting primarily of carbon containing compounds in either fixed or volatile form which are burned primarily for their heat content.

CATALYTIC CRACKING UNIT - A unit composed of a reactor, regenerator and fractionating tower which is used to convert certain petroleum fractions into more valuable products by passing the material at elevated temperature through a bed of catalyst in the reactor. Coke deposits produced on the catalyst during cracking are removed by burning off in the regenerator.

COMBUSTION FOR INDIRECT HEATING - The combustion of fuel to produce usable heat that is to be transferred through a heat-conducting materials barrier or by a heat storage medium to a material to be heated so that the material being heated is not contacted by, and adds no substance to the products of combustion.

ELECTRIC FURNACE - A furnace in which the melting and refining of metals are accomplished by means of electric energy.

ENGINEER - Any person meeting the requirements as set forth in Chapter 148, Acts of 1935, Indiana General Assembly, as amended, and who is registered under the Act as a Professional Engineer. He shall be the person who designed or is responsible for the design of the equipment or air pollution control devices and preparation of the plan documents.

EQUIPMENT - Fuel-burning, combustion or process devices or apparatus including incinerators, fuel-burning equipment, refuse-burning equipment used for the burning of fuel or other combustible material from which the products of combustion are emitted. Also this shall include apparatus which generates heat and may emit products of combustion; and manufacturing chemical, metallurgical, pyro-processing, or mechanical processes which may emit smoke, particulate matter or other air contaminants. Processes are defined as equipment according to this regulation.

EXCESS AIR - That air supplied in addition to the theoretical quantity necessary for complete combustion of all fuel and/or combustible waste material present.

EXISTING EQUIPMENT - Equipment under construction, installed or operated on the effective date of the regulations. Any existing equipment which subsequent to the effective date of these regulations is altered, repaired or rebuilt at a cost of 30% or more of its replacement value shall be deemed new equipment. The cost of air pollution control equipment and of its installation is not to be included as a cost of altering, repairing or rebuilding existing equipment.

FOUNDRY CUPOLA - A stack-type furnace used for melting of metals consisting of, but not limited to, furnace proper tuyeres, fans or blowers, tapping spout, charging equipment, gas-cleaning devices and other auxiliaries.

FOUNDRY OPEN HEARTH - An open hearth furnace as defined herein but used in the foundry industry.

GARBAGE - Animal and vegetable matter such as that originating in houses, kitchens, restaurants and hotels, produce markets, food service and processing establishments, and greenhouses.

GAS-CLEANING DEVICE - Facility designed to remove air contaminants from equipment exhaust gases.

HEATING AND REHEATING FURNACE - A furnace in which metal is heated to permit shaping or forming, or to achieve specific physical properties.

HEATING VALUE - The heat released by combustion of one pound of waste or fuel measured in BTU's on an as received basis.

INCINERATOR - Combustion apparatus designed for high temperature operation in which solid, semi-solid, liquid, or gaseous combustible wastes are ignited and burned efficiently and from which the solid residues contain little or no combustible material.

OPEN BURNING - Any burning of combustible materials wherein the products of combustion are emitted directly into the open air without passing through a stack or chimney.

OPEN HEARTH FURNACE - A furnace in which the melting and refining of metal is accomplished by the application of heat to a saucer-type or shallow hearth in an enclosed chamber. Such furnace consists of, but is not limited to, the furnace proper, checkers, flues, and stack and may include a waste heat boiler, an oxygen lance, and other auxiliaries pertinent to the process.

PARTICULATE MATTER - Any material, except water, that exists in a finely divided form as a liquid or solid.

PERSON - Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

POLITICAL SUBDIVISION - Any municipality, city, incorporated town, village, county, township, district or authority, or any portion or combination of two or more thereof.

PROCESS - Any action, operation, or treatment and the equipment used in connection therewith, and all methods or forms of manufacturing or processing that may emit air contaminants.

PROCESS WEIGHT - The total weight of all materials introduced into any source operation. Solid fuels charged will be considered as part of the process but liquid and gaseous fuels and combustion air will not.

PROCESS WEIGHT RATE -

(a) For continuous or long-run, steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

(b) For a cyclical or batch source operation, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.

When the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

REFUSE - Includes garbage, rubbish and trade wastes.

RINGELMANN CHART - The chart published and described in the U.S. Bureau of Mines Information Circular 8333, and on which are illustrated graduated shades of gray to black for use in estimating the light-obscuring power of smoke.

RUBBISH - Solids not considered to be highly flammable or explosive such as, but not limited to, rags, old clothing, leather, rubber, carpets, wood, excelsior, plastics, paper, ashes, tree branches, yard trimmings, furniture, tin cans, glass, crockery, masonry, and other similar materials.

SALVAGE OPERATIONS - Any business, trade or industry engaged in whole or part in salvaging or reclaiming any product or material, such as, but not limited to, metals, chemicals, shipping containers, or drums.

SINTERING PLANT - The plant used in connection with the process of fusing fine particles of metallic ores causing agglomeration of such particles. Such plant consists of, but is not limited to, sintering machines, handling facilities, wind boxes, stack and other auxiliaries pertinent to the process.

SMOKE - Small gas-borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon, ash and other combustible material, that form a visible plume in the air.

SMOKE MONITOR - A device using a light source and a light detector which can automatically measure and record the light-obscuring power of smoke at a specific location in the flue or stack of a source. Measuring and recording to be at intervals of not less than 15 seconds.

SOURCE OPERATION - The last operation preceding the emission of an air contaminant, which operation:

(a) results in the separation of the air contaminant from the process materials or in the conversion of the process materials into air contaminants, and

(b) is not an air pollution abatement operation.

STACK OR CHIMNEY - A flue, conduit or opening permitting particulate, or gaseous emission into the open air, or constructed or arranged for such purpose.

STANDARD CONDITIONS - A gas temperature of 70 degrees Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute (psia).

STANDARD CUBIC FOOT (SCF) - The standard cubic foot is a measure of the volume of one cubic foot of gas at standard conditions.

STANDARD METROPOLITAN STATISTICAL AREA (SMSA) - The county which has at least one city with a population of at least 50,000 and the contiguous counties which contain the suburban areas for these cities.

TECHNICAL SECRETARY - The Technical Secretary of the Air Pollution Control Board of the State of Indiana.

THEORETICAL AIR - The exact amount of air required to supply the required oxygen for complete combustion of a given quantity of a specific fuel or waste.

TRADE WASTE - All solid or liquid material or rubbish resulting from construction, building operations, or the prosecution of any business, trade or industry such as, but not limited to, plastic products, chemicals, cinders and other forms of solid or liquid waste materials.

REGULATION APC 2

Open Burning

Section 1. Definitions

(a) "Farming operation" means that business concerned with the planting, harvesting, and/or marketing of crops and the raising of animals. This does not include nurseries, tree farms, or sod production.

(b) "Garbage" means all putrescible animal solid, vegetable solid, and semi-solid wastes resulting from the processing, handling, preparation, cooking, serving, or consumption of food or food materials.

(c) "Incinerator" means a mechanical facility used to burn waste substances where combustion factors of temperature, retention time, and air are controlled.

(d) "Natural growth" means trees, brush, or other vegetation in its natural state either dead or alive.

(e) "Noncombustible container" means a container that can withstand a temperature of 1500 degrees F.

(f) "Open burning" means the combustion of any matter in the open or in an open dump.

(g) "Open" as used in "open burning" means: (a) the products of combustion are emitted directly into the open air without passing through a stack or chimney; or (b) combustion occurs in a device other than an approved incinerator or boiler.

(h) "Material" includes all biodegradable and non-biodegradable substances including garbage, rubbish, ashes, commercial, industrial, and institutional wastes, wood and wood products.

(i) "Stack" or "chimney" means a flue or conduit connecting an enclosed device with the open air which permits particulates or gases to escape.

(j) "Wood products" means material derived from or consisting of wood or vegetation such as paper, cardboard, rags, boards, branches, brush, grass, leaves, and other similar materials.

Section 2. Prohibition

No person shall open burn any material except as provided in Section 3 or Section 4.

Section 3. Exemptions

(a) The following types of fires are permitted:

(1) Fires celebrating Twelfth Night Ceremonies.

(2) Fires celebrating school pep rallies.

(3) Fires celebrating scouting activities.

(4) Camp fires.

(5) Residential burning - where residence contains four or fewer units. Burning shall be in a noncombustible container with enclosed sides, a bottom, and a mesh covering with openings no larger than 1/4" square. Burning is prohibited in apartment complexes and mobile home parks.

(6) Farm burning - wood products derived from farming operations. Clearing operations (Section 4(a)(4)) are not considered farm burning.

(7) Waste oil burning - where the waste oil has been collected in a properly constructed and located pit as prescribed in Rule 37A of the Division of Oil and Gas, Department of Natural Resources at an oil well. Each oil pit may be burned once every two (2) months and all the oil must be completely burned within thirty (30) minutes after ignition.

(b) All exemptions shall be subject to the following:

(1) Only wood products shall be burned unless otherwise stated above.

(2) Fires shall be attended at all times until completely extinguished.

(3) All residential, farm operation, and waste oil burning shall occur during daylight hours during which the fires may be replenished, but only in such a manner that nearly all of the burning material is consumed by sunset.

REGULATION APC 3

Visible Emissions and Malfunctions

Sec. 1. Limitation. No person shall operate any equipment so as to produce, cause, suffer, or allow smoke or other visible emissions in excess of 40 percent opacity (Ringelmann No. 2) except as allowed in Sec. 2 and Sec. 4. Opacity values shall not be considered valid, unless observed and determined by a qualified person. Visible emissions shall exclude uncombined water.

Sec. 2. Temporary Exceptions from Compliance

(a) Fire Starting. When building a new fire in a boiler, smoke no darker than 60 percent opacity may be emitted for a period not to exceed ten minutes on one occasion in any 24-hour period.

(b) Boilers. When cleaning a fire in a boiler or blowing tubes, smoke which is not darker than 60 percent opacity may be emitted for periods not exceeding five minutes in any 60-minute period. Such emissions shall not be permitted on more than six occasions during any 24-hour period.

(c) Other. That the time and opacity limitations set forth in Sec. 1, Sec. 2(a) and Sec. 2(b) may be exceeded for reasonable brief periods of time by the specific terms of time and opacity limitations set forth in an operation permit required under APC 19. The exception may be granted if:

(i) The exception is requested, and

(ii) it is shown that no alternative control method is available, and

(iii) it is not possible for the applicant to comply with Sec. 1, Sec. 2(a) and Sec. 2(b).
Further, that said agency is then authorized to issue an operation permit with said permit setting forth, in detail, the specific terms of the time and opacity limitations granted.†

Sec. 3. Violation of Other Regulations.

(a) Single Stacks. A violation of Sec. 1 of this Regulation shall constitute prima-facie evidence of a violation of any applicable particulate emission control regulation of of the Board, but may be refuted by a stack emission test conducted in accordance with the Board's Source Sampling Policy, or other evidence acceptable to the Board. No violation shall have occurred if it can be shown the emmissions are exempt under Section 2 of this Regulation or due to a malfunction providing the requirements of Section 4 are adhered to.

†EPA is not bound by exemptions granted by the state under Section 2(c); exemptions are considered on a case by case basis for impact on attainment and maintenance of the standards. See 40 FR 50033, Oct. 28, 1975.

(b) Multiple Stacks. For facilities with multiple stacks, each stack must comply separately with the opacity limitations of Sec. 1, except as allowed in Sec. 2, even though the multiple stacks, as a group, are in compliance with the limitations of the Board's applicable particulate emission control regulations.

Sec. 4 Malfunctions.

(a) Malfunction. For the purpose of this regulation shall mean any sudden, unforeseen, or unavoidable failure of air pollution control equipment, or combustion or process equipment to operate in a normal manner and in compliance with all applicable regulations of the Board.

(b) Reporting. When a malfunction of any combustion or process operation or air pollution control equipment lasts more than one hour, the Technical Secretary shall be notified by telephone, or telegraph, as soon as practicable, but in no event later than four daytime business hours after the beginning of said occurrence. Information of the scope and expected duration of the malfunction shall be provided. A record shall be kept of all malfunctions, including start ups, or other events which result in violations of Sec. 1 and Sec. 2, and such record shall be made available to the Board upon request.

(c) Maintenance. Source operators are responsible for operating and maintaining all equipment and processes in compliance with all applicable regulations of the Board. The Board recognizes that malfunctions may occur for many and varied reasons. Curtailment of operations shall be required, except as covered in Sec. 4(d), if the source is not in compliance at least 90 percent of the operating time over the most recent 12-month period. Where the record shows repeated malfunctions exceeding 5 percent of the normal operational time attributed to improper maintenance of faulty equipment, the Board may require that the maintenance program be improved or that the defective or faulty equipment be replaced. To eliminate long term malfunction periods resulting from delays in obtaining replacement parts, an adequate stock of replacement parts shall be maintained.

(d) Malfunction Emission Reduction Program. Malfunctions of air pollution control equipment, and combustion and processes equipment may result in increased emissions such that the air quality standards may be violated or that health hazards may occur. It is recognized that a variety of steps, including complete shut down of the equipment involved, can be taken to reduce the amount of emissions to a reasonable value. Any source that has an emission rate in excess of 2,000 pounds per hour of any pollutant following a malfunction, or because of the health hazard created by a lesser emission rate than that specified, shall submit a malfunction emission reduction. Such a malfunction emission reduction program shall be submitted to the Board within 60 days after promulgation of this regulation for its approval. Documentation shall include, but not be limited to, the normal operating emission rate, the malfunction emission rate, and the program proposed to reduce emissions to a reasonable emission rate. The program shall be based on the best practical estimates of type and number of malfunctions experienced during the past 12 months of normal operation, and the scope and duration of such malfunctions.

Sec. 5. Federal New Source Performance Standards. In addition to the requirements set forth herein, all new sources for which federal standards have been promulgated shall comply with the applicable portions of the Federal New Source Performance Standards 40 CFR Part 60.

REGULATION APC 4-R†

Combustion for Indirect Heating

Sec. 1. That in all areas of the State of Indiana except the Indiana portion (Lake and Porter Counties) of the Metropolitan Chicago Interstate Air Quality Control Region and in the Metropolitan Indianapolis Intrastate Air Quality Control Region, the emission of particulate matter from the combustion of fuel for indirect heating shall be limited by the ASME Standard No. APS-1, second edition, November, 1968, "Recommended Guide for the Control of Dust Emission-Combustion for Indirect Heat Exchangers."

(a) The maximum allowable emission shall be calculated using equation (15) in the ASME Standard with a maximum downwind ground level concentration of 50 micrograms per cubic meter for a 30-minute to 60-minute time period. Figure 2 as modified may be used to estimate allowable emissions and is included herewith.

Equation (15) is expressed as follows:

$$C_{max} = \frac{76.5\ Pt_f Q_m^{0.75} n^{0.25}}{a h_s}$$

C_{max} = maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall not exceed 50 micrograms per cubic meter.

Pt_f = pounds of particulate matter emitted per million Btu heat input.

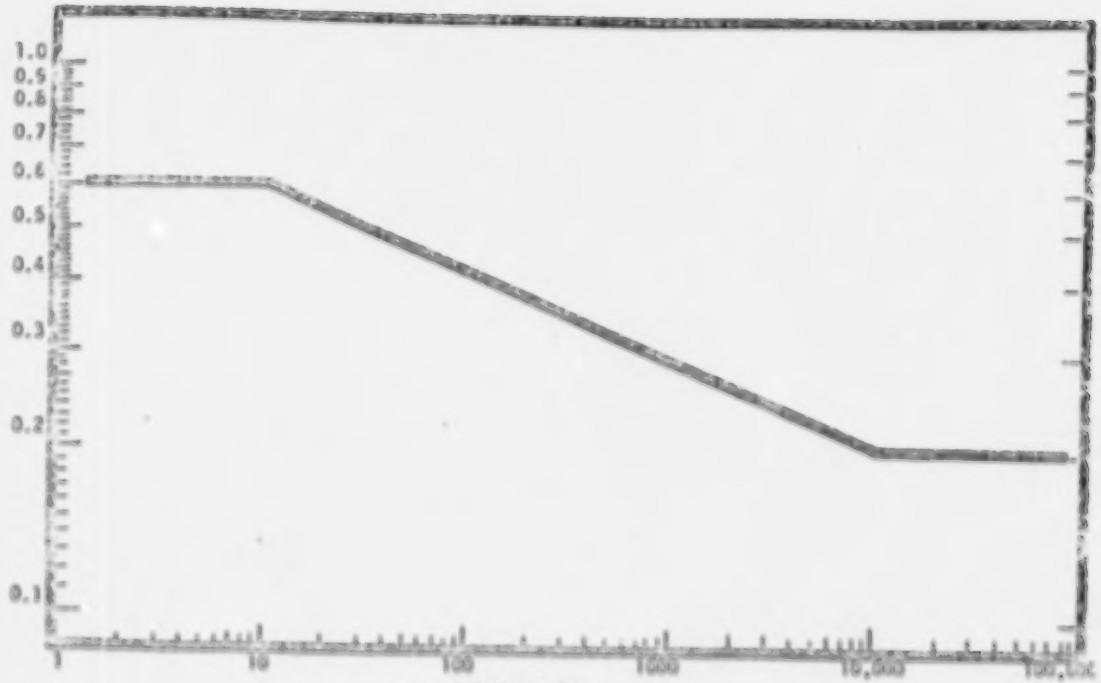
Q_m = total plant operating capacity rating in million Btu heat input per hour.

n = number of stacks in fuel burning operation.

a = plume rise factor. The value 0.67 shall be used for fuel burning equipment ratings of less than 1,000 million Btu heat input. No value greater than 0.8 for larger equipment ratings shall be used.

h_s = stack height in feet. If a number of stacks of different heights exist, the average stack height to represent "n" stacks shall be calculated by weighing each stack height with its particulate matter emission rate.

†Regulation APC 4.R is disapproved for the maintenance of secondary standards for particulate matter in the Metropolitan Indianapolis Region.



PARTICULATE EMISSION LIMITS

FIGURE 1

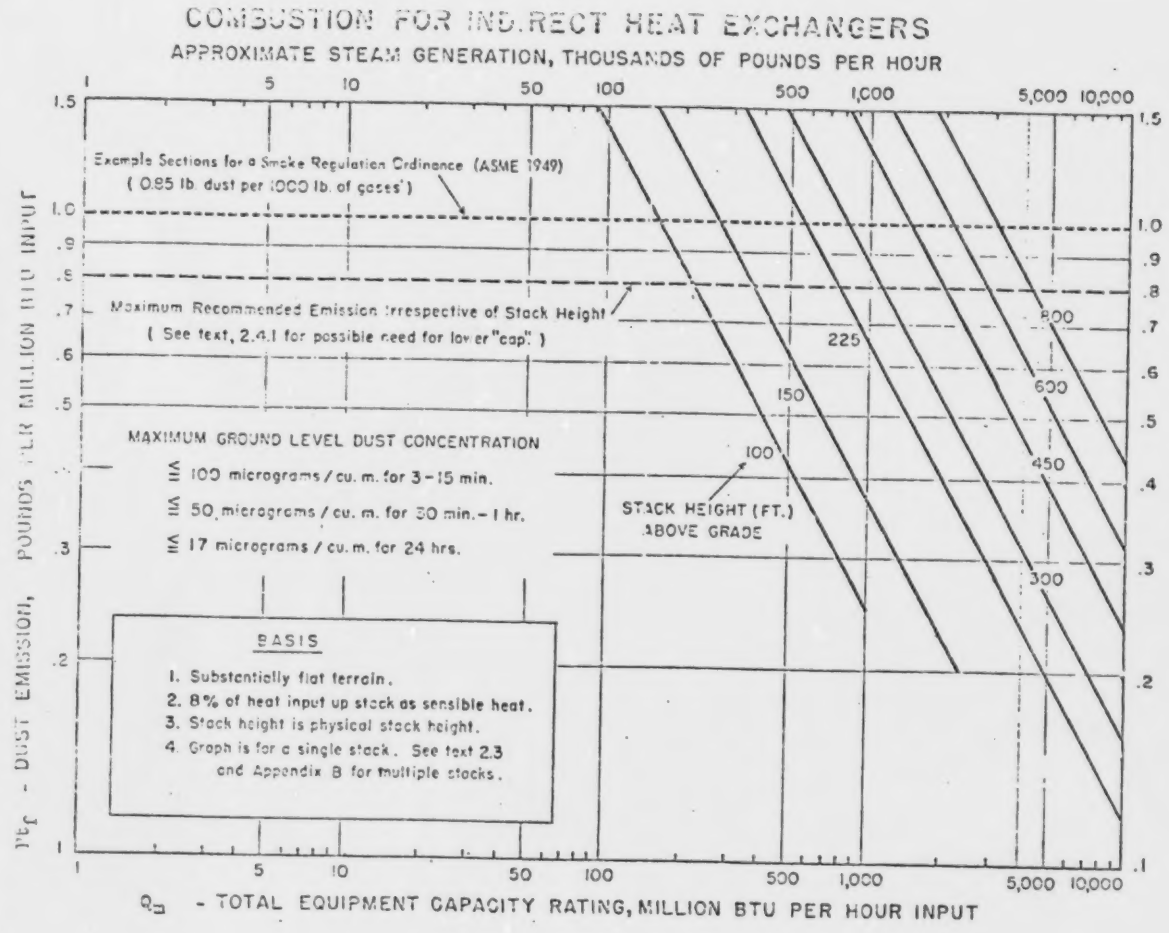


FIGURE 2

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(b) Particulate matter (Pt_f) from all existing fuel combustion operations for indirect heating shall in no case be greater than 0.8 pounds per million Btu heat input.

(c) Particulate matter (Pt_f) for all new combustion operations for indirect heat installations 250 million Btu heat input per hour or less shall in no case be greater than 0.6 pounds per million Btu heat input.

Sec. 2. In the Indiana portion (Lake and Porter Counties) of the Metropolitan Chicago Interstate Air Quality Control Region and in the Metropolitan Indianapolis Intrastate Air Quality Control Region, the emission of particulate matter from the combustion of fuel for indirect heating shall be limited to that expressed by:

$$Pt_f = 0.87\ Q_m - 0.16 \quad \text{where}$$

Pt_f and Q_m are defined in Section 1. For values of Q_m less than 10, Pt_f shall not exceed 0.2. Figure 1 may be used to estimate allowable emissions and is included herewith.

Sec. 3. This section has application in all areas of the State. Emissions of particulate matter from the combustion of fuel in new stationary installations for indirect heating in excess of 250 million Btu per hour heat input shall be limited to a maximum of 0.10 pounds per million Btu heat input as required and specified in the Federal Environmental Protection Agency's "Standards for Performance of New Stationary Sources," Federal Register, December 23, 1971, Volume 36, Number 247, Part II. This Federal Standard is adopted by reference as a part of this Regulation APC 4-R.

Sec. 4. Regulation APC 4, promulgated December 6, 1968, is hereby repealed.

REGULATION APC 5

Process Operations

No person shall operate any process so as to produce, cause, suffer or allow particulate matter to be emitted in excess of the amount shown in the following table. Exceptions are combustion for indirect heating, incinerators, open burning, existing cement kilns, existing catalytic cracking units, and existing foundries.

Allowable Rate of Emission Based on Process Weight Rate[1]

Process Weight Rate Lbs/Hr	Process Weight Rate Tons/Hr	Rate of Emission Lbs/Hr	Process Weight Rate Lbs/Hr	Process Weight Rate Tons/Hr	Rate of Emission Lbs/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.00	19.2
600	0.30	1.83	30,000	15.00	25.2
800	0.40	2.22	40,000	20.00	30.5
1,000	0.50	2.58	50,000	25.00	35.4
1,500	0.75	3.38	60,000	30.00	40.0
2,000	1.00	4.10	70,000	35.00	41.3
2,500	1.25	4.76	80,000	40.00	42.5
3,000	1.50	5.38	90,000	45.00	43.6
3,500	1.75	5.96	100,000	50.00	44.6
4,000	2.00	6.52	120,000	60.00	46.3
5,000	2.50	7.58	140,000	70.00	47.8
6,000	3.00	8.56	160,000	80.00	49.0
7,000	3.50	9.49	200,000	100.00	51.2
8,000	4.00	10.40	1,000,000	500.00	69.0
9,000	4.50	11.20	2,000,000	1,000.00	77.6
10,000	5.00	12.00	6,000,000	3,000.00	92.7
12,000	6.00	13.60			

[1]Interpolation of the data in this table for process weight rates up to 60,000 lbs/hr shall be accomplished by use of the equation $E = 4.10 P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation $E = 55.0 P^{0.11-40}$, where E = rate of emission in lbs/hr and P = process weight in tons/hr.

When the process weight exceeds 200 tons/hour, the maximum allowable emission may exceed that shown in the table, provided the concentration of particulate matter in the discharge gases to the atmosphere is less than 0.10 pounds per 1,000 pounds of gases at standard conditions.

Existing cement manufacturing operations equipped with electrostatic precipitators, bag filters, or equivalent gas-cleaning devices shall be allowed to discharge concentrations of particulate matter in accordance with $E = 8.6 P^{0.67}$ below 30 tons per hour of process weight and $E = 15.0 P^{0.5}$ over 30 tons per hour of process weight.

Existing petroleum catalytic cracking units equipped with cyclone separators, electrostatic precipitators, or other gas-cleaning systems shall recover 99.97% or more of the circulating catalyst or total gas-borne particulate.

REGULATION APC 6

Existing Foundries

No person shall operate any existing foundry so as to produce, cause, suffer, or allow particulate matter to be emitted in excess of the amount shown in the following table. All new foundries shall not exceed the requirements of Regulation APC 5.

Allowable Emissions from Foundry Cupolas
(Existing Emission Sources)

Process Weight Rate Lbs/Hr	Allowable Emission of Particulate Matter Lbs/Hr
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.65
6,000	11.30

Process Weight Rate Lbs/Hr	Allowable Emission of Particulate Matter Lbs/Hr
7,000	12.90
8,000	14.00
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	22.80
20,000	24.00
30,000	30.00
40,000	36.00
50,000	42.00
60,000	48.00
70,000	49.00
80,000	50.50
90,000	51.60
100,000	52.60

REGULATION APC 7

Incinerators

Section 1. Purpose

This regulation establishes standards for the proper operation of incinerators so that air quality can be improved and protected.

Section 2. Definitions

(a) "Incinerator" means an engineered apparatus that burns waste substances with controls on combustion factors including, but not limited to, temperature, retention time and air.

(b) "Stationary incinerator" means incinerators installed and operated in one location and not intended to be moved for the lifetime of the apparatus.

(c) "Portable incinerator" means incinerators that can be readily moved to and operated in different locations.

(d) "Primary chamber" means the chamber in which waste material is ignited and burned.

(e) "Secondary chamber" means the chamber in which combustible solids, vapors and/or gases from the primary chamber either are collected or are ignited and burned.

(f) "Wood products" means material derived from or consisting of wood or vegetation including, but not limited to, paper, cardboard, rags, boards, branches, brush, grass, and leaves.

Section 3. Application

This regulation does not apply to incinerators in residential units consisting of four or fewer families. All other incinerators are subject to this regulation.

Section 4. Stationary incinerators

All stationary incinerators shall:

(a) Consist of primary and secondary chambers or the equivalent.

(b) Be equipped with a primary burner unless burning wood products.

(c) Comply with Regulation APC 3 and Regulation APC 19.

(d) Be maintained properly as specified by the manufacturer and approved by the Board or its designated agent.

(e) Be operated according to the manufacturer's recommendations and only burn waste approved by the Board or its designated agent.

(f) Comply with other state and/or local regulations or ordinances regarding installation and operation.

(g) Be operated so emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented.

(h) Not emit particulate matter in excess of the following:

(1) Incinerators with a maximum refuse-burning capacity of 200 of more pounds per hour: 0.3 pounds of particulate matter per 1,000 pounds of dry exhaust gas at standard conditions corrected to 50% excess air.

(2) All other incinerators: 0.5 pounds of particulate matter per 1,000 pounds of dry exhaust gas at standard conditions corrected to 50% excess air.

(i) Not create an air pollution problem, a nuisance or a fire hazard. If any of the above result, the burning shall be terminated immediately.

Section 5. Portable Incinerators

All portable incinerators shall be subject to the following conditions:

(a) Approval of the Board or its designated agent must be obtained prior to operation at a new project site.

(b) Only wood products shall be burned.

(c) Merchantable material shall be salvaged where practicable.

(d) The local health department shall be notified prior to any burning.

(e) All burning shall be conducted under favorable meteorological conditions.

(f) Burning shall occur during daylight hours and all material shall be consumed by sunset.

(g) If burning creates an air pollution problem, a nuisance or a fire hazard, the burning shall be terminated immediately.

(h) The incinerator shall be maintained and operated according to the manufacturer's recommendations and in a manner approved by the Board or its designated agent.

(i) The installation and operation of such an apparatus shall comply with all other state and/or local regulations or ordinances.

(j) A portable incinerator shall comply with both Regulation APC 3 and Regulation APC 19.

Regulation APC 8†

Continuous Emission Monitoring

Section 1 Applicability

Sources in the following categories shall continuously monitor and record emissions of air pollutants according to Appendix I of this regulation.

(a) Fossil fuel-fired steam generators of greater than 250 million Btu per hour heat input capacity.

(b) Nitric acid plants of greater than 300 tons per day production capacity, the production capacity being expressed at 100% acid.

(c) Sulfuric acid plants of greater than 300 tons per day production capacity, the production capacity being expressed as 100% acid.

(d) Petroleum refinery catalyst regenerators for fluid bed catalytic cracking units of greater than 20,000 barrels (840,000 gallons) per day fresh feed capacity.

Section 2 Compliance

All sources must be in compliance with this regulation by July 1, 197

†This regulation does not apply to any source scheduled for retirement by October 6, 1980, or within five years after the promulgation of continuous emission monitoring requirements for that source category in 40 CFR Part 51, Appendix P1.1, provided that adequate evidence shows that the source will cease operations on or before such date.

Appendix I - Minimum Emission Monitoring Requirements

1.0 Purpose.

This appendix sets forth the minimum requirements for continuous emission monitoring and recording. These requirements include the source categories to be affected; emission monitoring, recording, and reporting requirements for those sources; performance specifications for accuracy, reliability, and durability of acceptable monitoring systems; and techniques to convert emission data to units of the applicable State emission standard. Such data must be reported to the Air Pollution Control Board (APCB) as an indication of whether proper maintenance and operating procedures are being utilized by source operators to maintain emission levels at or below emission standards. Such data may be used directly or indirectly for compliance determination or any other purpose deemed appropriate by the APCB.

1.1 Applicability.

The owner or operator of an emission source in a category listed in this appendix shall: (1) install, calibrate, operate, and maintain all monitoring equipment necessary for continuously monitoring the pollutants specified in this appendix for the applicable source category; and (2) complete the installation and performance tests of such equipment and begin monitoring and recording by July 1, 1978. The source categories and the respective monitoring requirements are listed below:

1.1.1 Fossil fuel-fired steam generators, as specified in paragraph 2.1 of this appendix; shall be monitored for opacity, nitrogen oxides emissions, sulfur dioxide emissions, and oxygen or carbon dioxide.

1.1.2 Fluid bed catalytic cracking unit catalyst regenerators, as specified in paragraph 2.4 of this appendix, shall be monitored for opacity.

1.1.3 Sulfuric acid plants, as specified in paragraph 2.3 of this appendix, shall be monitored for sulfur dioxide emissions.

1.1.4 Nitric acid plants, as specified in paragraph 2.2 of this appendix, shall be monitored for nitrogen oxides emissions.

1.2 Exemptions.

Exemptions from the monitoring requirements of paragraph 1.1 of this appendix shall be granted by the APCB to any source which is:

1.2.1 Subject to new source performance standards promulgated in 40 CFR Part 60, pursuant to Section 111 of the Clean Air Act; or

1.2.2 Not subject to an applicable emission standard of the State Implementation Plan (SIP); or

1.3 Extension.

Extensions of the time provided for installation of monitors may be granted by the APCB for facilities unable to meet the prescribed timeframe (compliance by July 1, 1978) provided the owner or operator of such facility demonstrates that good faith efforts have been made to obtain and install such devices within such prescribed timeframe.

1.4 Monitoring System Malfunction.

When a malfunction of any monitoring system lasts more than one hour, the Technical Secretary shall be notified by telephone, or telegraph, as soon as practicable but in no event later than four daytime business hours after the beginning of said occurrence. Information of the scope and expected duration of the malfunction shall be provided. A temporary exemption from the monitoring and reporting requirement of this appendix may be granted, provided that the owner or operator shows, to the satisfaction of the Technical Secretary, that the malfunction was unavoidable and is being repaired as expeditionsly as practicable.

2.0 Minimum Monitoring Requirement.

The sources listed in paragraph 1.1 of this appendix shall, as a minimum, meet the following basic requirements:

2.1 Fossil Fuel-Fired Steam Generators.

Each fossil fuel-fired steam generator, except as provided in the following subparagraphs, with an annual average capacity factor of greater than 30 percent, as reported to the Federal Power Commission for calendar year 1974 or as otherwise demonstrated to the APCR by the owner or operator, shall conform with the following monitoring requirements when such facility is subject to an emission standard of the SIP for the pollutant in question.

2.1.1 A continuous monitoring system for the measurement of opacity which meets the performance specifications of paragraph 3.1.1 of this appendix shall be installed, calibrated, maintained, and operated in accordance with the procedures of this appendix by the owner or operator of any such steam generator of greater than 250 million BTU per hour heat input except where:

2.1.1.1 Gaseous fuel is the only fuel burned; or

2.1.1.2 Oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with Regulations

APC 3 and APC 4R without utilization of particulate matter collection equipment, and where the source has never been found, through any administrative or judicial proceedings, to be in violation of Regulation APC 3.

2.1.2 A continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of paragraph 3.1.3 of this appendix shall be installed, calibrated, maintained, and operated on any fossil fuel-fired steam generator of greater than 250 million BTU per hour heat input which has installed sulfur dioxide pollutant control equipment.

2.1.3 A continuous monitoring system for the measurement of nitrogen oxides which meets the performance specifications of paragraph 3.1.2 of this appendix shall be installed, calibrated, maintained, and operated on fossil fuel-fired steam generators of greater than 1000 million BTU per hour heat input when such facility is located in an Air Quality Control Region (AQCR) where the Administrator of the U.S. Environmental Protection Agency (EPA) has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the national standards, unless the source owner or operator demonstrates during source compliance tests as required by the APCB that such a source emits nitrogen oxides at levels 30 percent or more below the emission standard set forth in Regulation APC 17.

2.1.4 A continuous monitoring system for the measurement of the percent oxygen or carbon dioxide which meets the performance specifications of paragraphs 3.1.4 or 3.1.5 of this appendix shall be installed, calibrated, operated, and maintained on all fossil fuel-fired steam generators where measurements of oxygen or carbon dioxide in the flue gas are required to convert either sulfur dioxide or nitrogen oxides continuous monitoring data, or both, to units of the emission standard in the SIP.

2.2 Nitric Acid Plants.

Each nitric acid plant of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid, located in an AQCR where the Administrator of the U.S. EPA has specifically determined that a control strategy for nitrogen dioxide is necessary to attain the national standard shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of nitrogen oxides which meets the performance specifications of paragraph 3.1.2 of this appendix for each nitric acid producing facility within such plant.

2.3 Sulfuric Acid Plants.

Each sulfuric acid plant of greater than 300 tons per day production capacity, the production capacity being expressed as 100 percent acid,

shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of paragraph 3.1.3 of this appendix for each sulfuric acid producing facility within such plant.

2.4 Fluid Bed Catalytic Cracking Catalyst Regenerators at Petroleum Refineries.

Each catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day of fresh feed capacity shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity which meets the performance specifications of paragraph 3.1.1 of this appendix.

3.0 Minimum Specifications.

Owners and operators of monitoring equipment installed to comply with this appendix, except as provided in paragraph 3.2 of this appendix, shall demonstrate compliance with the following performance specifications.

3.1 Performance Specifications.

The performance specifications set forth in Appendix B of 40 CFR Part 60, are incorporated herein by reference, and shall be used to determine acceptability of monitoring equipment installed pursuant to this appendix except that where reference is made to the "Administrator" in Appendix B, 40 CFR Part 60, the term "APCB" should be inserted for the purpose of this appendix. Performance Specifications to be used with each type of monitoring system are listed below.

3.1.1 Continuous monitoring systems for measuring opacity shall comply with Performance Specification 1.

3.1.2 Continuous monitoring systems for measuring nitrogen oxides shall comply with Performance Specification 2.

3.1.3 Continuous monitoring systems for measuring sulfur dioxide shall comply with Performance Specification 2.

3.1.4 Continuous monitoring systems for measuring oxygen shall comply with Performance Specification 3.

3.1.5 Continuous monitoring systems for measuring carbon dioxide shall comply with Performance Specification 3.

3.2 Exemptions.

Any source which has purchased an emission monitoring system(s) prior to September 11, 1974, may be granted an exemption by the APCB from meeting such test procedures prescribed in Appendix B of 40 CFR Part 60, for a period not to extend past October 1, 1981.

3.4 Cycling Times.

Cycling times include the total time a monitoring system requires to sample, analyze, and record an emission measurement.

3.4.1 Continuous monitoring systems for measuring opacity shall complete a minimum of one cycle of operation sampling analyzing, and data recording for each successive 10-second period.

3.4.2 Continuous monitoring systems for measuring oxides of nitrogen, carbon dioxide, oxygen, or sulfur dioxide shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

3.5 Monitor Location.

All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters (i.e., oxygen, or carbon dioxide) from the affected facility are obtained. Additional guidance for location of continuous monitoring systems to obtain representative samples are contained in the applicable Performance Specifications of Appendix B, 40 CFR Part 60.

3.6 Combined Effluents.

When the effluents from two or more affected facilities of similar design and operating characteristics are combined before being released to the atmosphere, the APCB may allow monitoring systems to be installed on the combined effluent, if the owner or operator shows that measurement of the combined effluent is at least as accurate as simultaneous measurement of each effluent prior to their combining in thsir common stack.

3.7 Zero and Drift.

Owners or operators of all continuous monitoring systems installed in accordance with the requirements of this appendix shall record the zero and span drift in accordance with the method prescribed by the manufacturer of such instruments; subject the instruments to the manufacturer's recommended zero and span check at least once daily unless the manufacturer has recommended adjustments at shorter intervals, in which case such recommendations should be followed; adjust the zero and span whenever the 24-hour zero drift or 24-hour calibration drift limits of the applicable performance specifications in Appendix B of 40 CFR Part 60 are exceeded; and adjust continuous monitoring systems referenced by paragraph 3.2 of this appendix whenever the 24-hour calibration drift exceeds 10 percent of the emission standard.

3.8 Span.

Instrument span should be approximately 200 percent of the expected instrument data display output corresponding to the emission standard for the source.

3.9 Alternative Procedures and Requirements.

3.9.1 Alternative locations for installing continuous monitoring systems or monitoring devices may be approved by the APCB when the owner or operator can demonstrate that installation at alternative locations will enable accurate and representative measurements.

3.9.2 Alternative procedures for performing calibration checks may be approved by the APCB when the owner or operator can demonstrate that such alternate procedures will still result in meeting the specifications set forth in tables 1.1 for opacity, 2.1 for sulfur dioxide and nitrogen oxides and 3.1 for oxygen and carbon dioxide, as contained in Appendix B, 40 CFR Part 60.

3.9.3 Alternative continuous monitoring systems that do not meet the spectral response requirements in Performance Specification 1, Appendix B, 40 CFR Part 60, but adequately demonstrate a definite and consistent relationship between their measurements and the opacity measurement of a system complying with the requirements in Performance Specification 1 may be approved by the APCB. The APCB may require that such demonstration be performed for each affected facility.

4.0 Minimum Data Requirements.

4.1 Owners or operators of facilities required to install continuous monitoring systems shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions, if known. The averaging periods used for data reporting shall be six minutes for opacity and three hours for gaseous measurements. The required report shall include, as a minimum, the data stipulated in this appendix.

4.2 For opacity measurements, the summary shall consist of the magnitude in actual percent opacity of all six-minute averages of opacity greater than 40 percent opacity for each hour of operation of the facility. Average values may be obtained by integration over six minutes or by arithmetically averaging a minimum of four equally spaced, instantaneous, opacity measurements per minute.

4.3 For gaseous measurements the summary shall consist of emission averages, in units of the applicable standard for each 3-hour period during which the applicable standard was exceeded.

4.4 The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repair or adjustments shall be reported. The APCB may require proof of continuous monitoring system performance whenever system repairs or adjustments have been made.

4.5 When no excess emissions have occurred and the continuous monitoring system(s) has not been inoperative, repaired or adjusted, such information shall be included in the report.

4.6 Owners or operators of affected facilities shall maintain a file of all information reported in the quarterly summaries and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries.

5.0 Data Reduction.

Owners or operators of affected facilities shall use the following procedures for converting monitoring data to units of the standard where necessary.

5.1 For fossil fuel-fired steam generators the following procedures shall be used to convert gaseous emission monitoring data in parts per million (ppm) to pounds per million BTU where necessary.

5.1.1 When the owner or operator of a fossil fuel-fired steam generator elects under subparagraph 2.1.4 of this appendix to measure oxygen in the flue gases, the measurements of the pollutant concentration and oxygen shall be on a dry basis and the following conversion procedure used:

$$E = CF \frac{(20.9)}{(20.9 - \%\ O_2)}$$

5.1.2 When the owner or operator elects under subparagraph 2.1.4 of this appendix to measure carbon dioxide in the flue gases, the measurement of the pollutant concentration and the carbon dioxide concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure used:

$$F = CF_c \frac{(100)}{(\%\ CO_2)}$$

5.1.3 The values used in the equations under paragraph 5.1 are derived as follows:

E = Pollutant emission, lb/million BTU,
C = Pollutant concentration, lb/dscf, determined by multiplying the average concentration (ppm) for each hourly period by $2.64 \times 10^{-9} M$ lb/dscf per ppm where M = pollutant molecular weight, lb/lb-mole. M = 64 for sulfur dioxide and 46 for oxides of nitrogen,

$\%O_2$, $\%CO_2$ = Oxygen or carbon dioxide volume (expressed as percent) determined with equipment specified under paragraph 2.1.4 of this appendix,

F, F_c = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of carbon-dioxide generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given in Section 60.45(f) of 40 CFR Part 60, as applicable.

5.2 For sulfuric acid plants the owner or operator shall:

5.2.1 Establish a conversion factor three times daily according to the procedures of Section 60.84(b) of 40 CFR Part 60;

5.2.2 Multiply the conversion factor by the average sulfur dioxide concentration in the flue gases to obtain average sulfur dioxide emissions in lb/ton; and

5.2.3 report the average sulfur dioxide emission for each 3-hour period in excess of the emission standard set forth in Regulation APC 13, in the quarterly summary.

5.3 For nitric acid plants the owner or operator shall:

5.3.1 Establish a conversion factor according to the procedures of Section 60.73(-) of 40 CFR Part 60;

5.3.2 Multiply the conversion factor by the average nitrogen oxides concentration in the flue gases to obtain nitrogen oxides emissions in lb/ton;

5.3.3 Report the average nitrogen oxides for each averaging period in excess of the emission standard set forth in APC 17, in the quarterly summary.

5.4 Alternate Data Reporting and Reduction Procedures.

5.4.1 Alternate procedures for computing emission averages that do not require integration of data may be approved by the APCB if the owner or operator shows that his procedures are at least as accurate as those in this appendix.

5.4.2 Alternative methods of converting pollutant concentration measurements to units of the emission standard may be approved by the APCB if the owner or operator shows that his procedures are at least as accurate as those in this appendix.

REGULATION APC 12-R

Air Pollution Episode Alert Levels and Actions for the State of Indiana

Air pollution episode levels are based on levels of air contaminant concentrations in the atmosphere. The levels are established on the basis of the following minimum conditions and, as these figures are reached and verified, the appropriate episode level shall be activated by the Technical Secretary of the Air Pollution Control Board:

1. Air Pollution Forecast - Meteorological advisory bulletin that weather conditions conducive to the accumulation of atmospheric pollutants will persist for at least 36 hours.

2. Air Pollution Alert - That concentration of contaminants at which first stage control actions must begin. When meteorological conditions are such that this condition can be expected to continue for 12 or more hours, an alert will be declared if any one of the following levels is reached:

   SO_2 - 0.3 ppm, 24-hour average
   Particulate - 3.0 COHs, 24-hour average, or SO_2 and particulate combined - product of SO_2 ppm, 24-hour average and COHs equal to 0.2, or the highest product in any 24-hour period of SO_2 in ppm and particulate in ug/m^3 equals 25.
   CO - 15 ppm, 8-hour average
   Ox - 0.1 ppm, 1-hour average
   NO_2 - 0.6 ppm, 1-hour average, 0.15 ppm, 24-hour average

3. Air Pollution Warning - That concentration of contaminants which indicates air quality is continuing to degrade and second stage control actions must begin. When meteorological conditions are such that this condition can be expected to continue for 12 hours or more, a warning will be declared if any one of the following levels is reached:

SO_2 - 0.6 ppm, 24-hour average
Particulate - 6.0 COHs, 24-hour average
Combined SO_2 and COHs, 24-hour average, SO_2 and COHs equal to 1.0, or the highest product in any 24-hour period of SO_2 ppm and particulate in ug/m^3 equal 125.
CO - 30 ppm, 8-hour average
Ox - 0.4 ppm, 1-hour average
NO_2 - 1.2 ppm, 1-hour average, 0.3 ppm, 24-hour average

4. Air Pollution Emergency - The emergency level is reached when the warning level for a pollutant has been exceeded and (1) the concentrations of the pollutant are continuing to increase, or (2) the Technical Secretary determines that, because of meteorological or other factors, the concentrations will continue to increase.

5. Termination - Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time the next lower status will be assumed.

REGULATION APC 13

Standards for Sulfur Dioxide Emissions for All Stationary Sources†

Sec. 1. Scope

Sulfur dioxide emissions from all stationary sources in the State of Indiana exceeding 10 pounds per hour shall comply with the rules set forth below. This regulation, however, shall not apply to resident dwellings or apartment buildings containing four or fewer units.

(a) New Large Sources: The maximum allowable sulfur dioxide emissions for new equipment of more than 250 million BTU per hour heat input shall be that value expressed in the Federal New Source Performance Standards 40 CFR Part 60. These sources shall, also, comply with Section 3 of this regulation.

†All sources in Jefferson, LaPorte, Porter, Vigo, and Warrick Counties must still comply with the emission limitations specified in "old" APC-13, as approved on 5/14/73, the text of which follows the revised version printed here.

(b) New Small Sources and All Existing Sources: The maximum allowable sulfur dioxide emissions from new equipment with a BTU input of 250 million BTU per hour heat input or less, shall be limited to the smaller value, as determined by Section 2 or 3 of this regulation. In priority A and B air quality basins only, sulfur dioxide emissions from existing equipment, regardless of capacity, shall be limited to the smaller value, as determined by Section 2 or 3 of this regulation; however, compliance with Section 2 or 3 for said existing sources in priority B air quality basins shall not be required when:

(1) an exemption is requested for a specific boiler, and

(2) the boiler is used no more than 500 equivalent full load hours per year, and †

(3) there is no practicable control method available, and

(4) there will be no violation of any ambient air quality standards, and

(5) said exemption is set forth in a valid operation permit under the provisions of Regulation APC 19.

(c) Basic Stack Construction Provisions: All new exhaust gas stacks or chimneys emitting sulfur dioxide shall be no less than 50 feet in height. Further, all such new stacks shall be at least 2-1/2 times the height of the tallest existing building or obstruction, located within 500 feet of the stack, that has a major effect on air movements. However, this height requirement may be reduced and incorporated into the terms of a construction or operation permit as required in Regulation APC 19 when:

(1) application is duly made by the source, and

(2) there is a submission of adequate proof that: (i) there is no major effect on air movement; or (ii) there is no violation of the ground level concentrations (Sec. 3); or (iii) there are other reasons acceptable to the Board.

No source shall emit sulfur dioxide which may create or contribute to ambient levels of sulfur dioxide at the ground level in excess of the air quality standards as set forth in Regulation APC 14 at or beyond its property line.

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†The phrase "equivalent full load" is disapproved.

Sec. 2. Maximum Total Sulfur Dioxide Emissions

(a) Emissions from fuel combustion operations, including direct-fired process operations, shall be limited to that expressed by the formulas:

$E_m = 17.0\ Q_m^{-0.33}$ or $E_p = 17.0\ Q_m^{\ 0.67}$ where $E_p = E_m \times Q_m$†

(See Section 3 for definition of terms.)

The value of E_m shall not exceed 6.0 lbs. of sulfur dioxide nor shall it be required that E_m be reduced below 1.2 lbs. of sulfur dioxide per million BTU of heat input. When the heat input value is for material other than Indiana coal, Q_m shall be modified by the ratio of the dry stoichiometric effluent gas volume in cu. ft. per million BTU heat input of the material to be burned and the corresponding dry stoichiometric effluent gas volume for that of average Indiana coal (9850 cu. ft./million BTU of heat input at standard conditions). For the purpose of this section, direct-fired process operations shall be defined as that operation which uses oxygen in the air to combine with sulfur to form a marketable product.††

(b) Emissions from existing sulfur recovery plants and emissions from all operations not subject to Section 2(a) shall be limited to that expressed by the formula:

$E_p = 19.5P^{0.67}$

The attached two figures depict these formulas and may be used to estimate allowable emissions.

Sec. 3. Allowable Ground Level Concentration

(a) Maximum hourly ground level concentrations (C_{max}) of sulfur dioxide contributed by any source shall not exceed 200 micrograms per cubic meter in a priority A basin, or 500 micrograms per cubic meter in a priority B basin.

(b) Maximum hourly ground level concentrations (C_{max}) of sulfur dioxide contributed by a new source shall not exceed 900 micrograms per cubic meter in a priority C basin.

(c) Ground level hourly concentrations for (a) and (b) above shall be determined by:

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† The formula "$E_p = 17.0Q_m^{0.67}$ where $E_p = E_m \times Q_m$ is disapproved.

†† The modification of Q_m for non-Indiana coal is disapproved. Section 2(a) is disapproved as it refers to direct fired process operations.

(1) The formulas:†

$$C_{max} = \frac{90 S_f \, Q_m^{0.75} \, n^{0.25}}{a \, h_s}$$ for fuel combustion operations

$$C_{max} = \frac{40 S_p \, p^{0.75} \, n^{0.25}}{a \, h_s}$$ for process operations subject to Section 2(b) of this regulation

(2) Other formulas or methods considered acceptable to the Board.

(d) Factors in the formulas, for Sections 2 and 3, are defined as follows:

C_{max} = maximum hourly ground level concentration with respect to distance and at the "critical wind speed for level terrain" resulting from the point source. This value shall not exceed those numbers specified in (a) and (b) above. However, lower values may be specified by the Board where terrain and other conditions dictate.

S_f = pounds of sulfur dioxide emitted per million BTU of heat input value of the fuel.

S_p = pounds of sulfur dioxide emitted per ton of process weight input.

E_m = maximum allowable sulfur dioxide emissions in pounds per million BTU fuel heat input.

E_p = maximum allowable sulfur dioxide emissions in pounds per hour.

Q_m = total combustion equipment capacity rating, fuel heat input in millions of BTU per hour.

P = total process equipment capacity weight input, tons per hour.

n = number of stacks or chimneys in fuel burning or process operations.

a = plume rise factor of 0.7.

†The formulas are disapproved insofar as they could be interpreted to permit reassignment of a county to a "B" or "C" Basin designation because of increased stack heights. Section 3(c) is disapproved as it refers to direct fired process operations.

h_s = stack height in feet. If a number of stacks with varying heights for different equipment capacity ratings exist, an average stack height to represent "n" stacks shall be calculated by taking the sum of the height of each stack multiplied by its hourly sulfur dioxide emission rate and dividing the sum by the total plant hourly sulfur dioxide emission rate. If the emission rate per million BTU of heat input for all stacks is the same, other means acceptable to the Board for ascertaining "h_s" may be used.

Sec. 4. Applicability

The following shall apply to all existing sources:

(a) All sources of sulfur dioxide emissions in priority A air quality basins shall comply with Sections 1, 2, and 3 of this regulation. In the event a source is not in compliance with this regulation, the schedule specified by Section 5(a) shall be followed.

(b) All fuel combustion sources of sulfur dioxide emissions, in priority B air quality basins, shall comply with Sections 1, 2, and 3 of this regulation by May 31, 1975. In the event a source is not in compliance with this regulation, the schedule specified by Section 5(a) shall be followed. A source may elect to delay compliance until May 31, 1978, provided it installs interim controls to maintain air quality standards for sulfur dioxide, as set forth in APC 14, by July 1, 1975, as follows: (i) install and operate such numbers of properly located continuous air quality and meteorological monitors as the Board may require; (ii) provide the Board with reports on all collected ambient air quality and meteorological data on a monthly basis; and (iii) provide protection during adverse meteorological conditions through the use of low sulfur fuel (that fuel required to comply with Sections 1, 2, and 3 of this regulation) for two weeks or more, reducing fuel usage, or other means acceptable to the Board; however, those sources less than 500 million BTU need not comply with (i) and (ii) above. All sources using interim controls must comply with Sections 1, 2, and 3 no later than May 31, 1978, in accordance with the schedules specified in Section 5 (b) of this regulation.†

†Section 4(b) is disapproved as it refers to direct fired process operations.

(c) All fuel combustion sources of sulfur dioxide emissions in a priority C air quality basin, must maintain a supply of low sulfur fuel (that which is required to comply with Section 2 of this regulation) sufficient to operate the plant for two weeks or more as required by the Board during adverse meteorological conditions. This low sulfur fuel supply shall be available by July 1, 1975. In addition, a fuel combustion source of 500 million BTU or greater in a priority C air basin shall (1) install and operate such number of properly located continuous air quality and meteorological monitors as the Board may require; and (2) provide the Board with reports on all collected ambient air quality and meteorological data on a monthly basis.†

Sec. 5. Compliance Schedules

(a) All sources of sulfur dioxide emissions located in a priority A air quality basin and not in compliance with Sections 1, 2, and 3 of this regulation and all sources in priority B or C air quality basins that elect to achieve compliance by May 31, 1975, shall adhere to the following schedule:

(1) Submit a letter of intent no later than three months after this regulation is promulgated, which includes a schedule of dates for such items as submittal of plans, start of construction, completion of construction, for achieving compliance with Sections 1, 2, and 3, whichever is applicable. If compliance is to be accomplished by facility shut down, it shall be so specified.

(2) Achieve compliance by May 31, 1975.

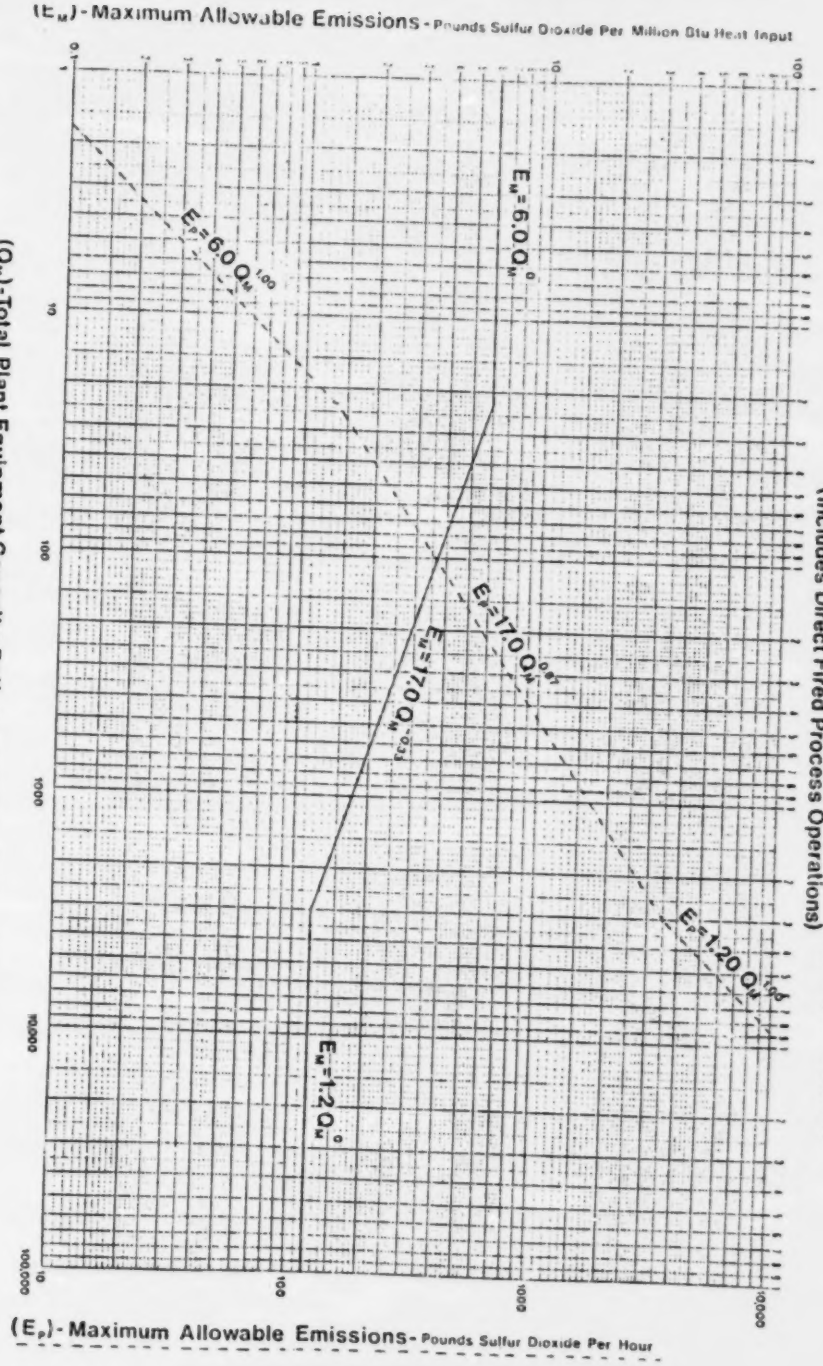
(3) Submit performance results by July 31, 1975.

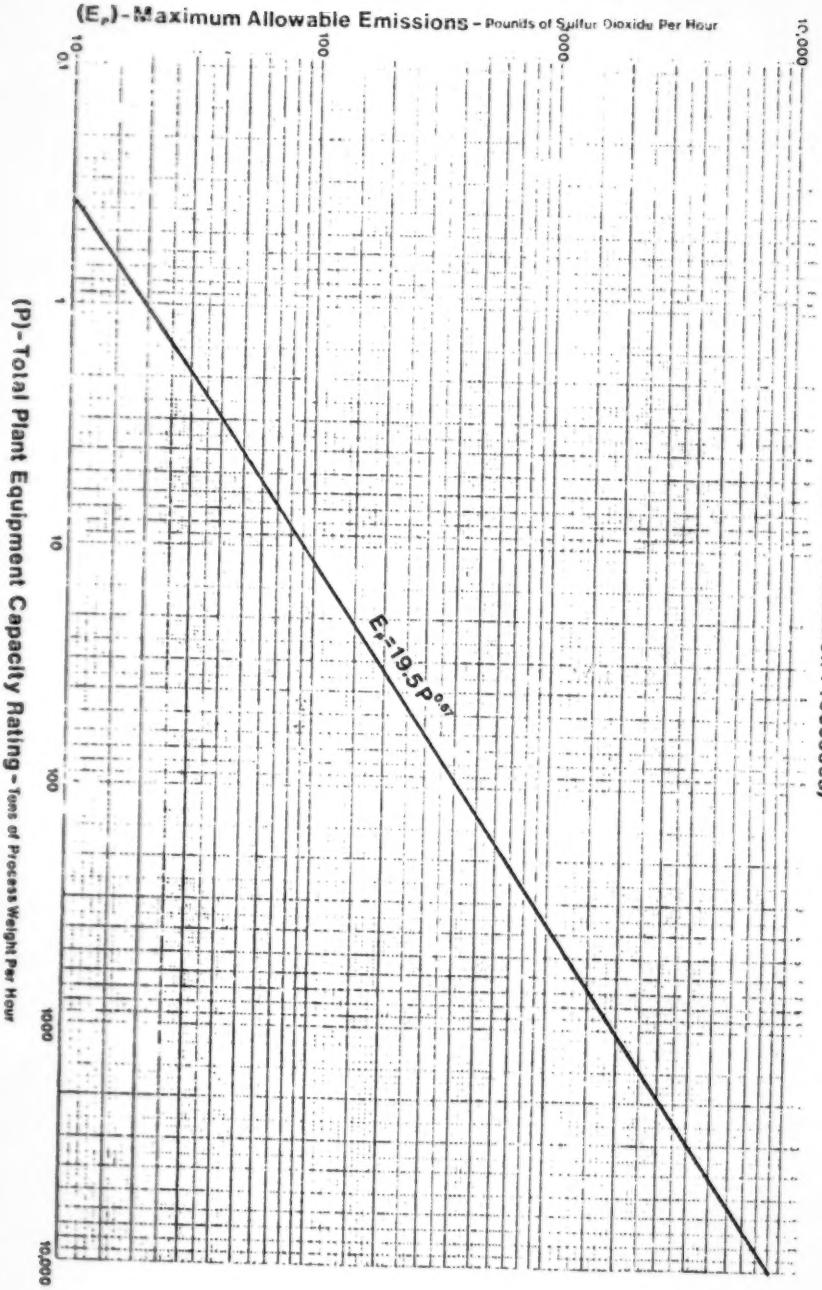
(b) All sources of sulfur dioxide emissions located in a priority B air quality basin and not in compliance with Sections 1, 2, and 3 of this regulation and electing to comply with the interim provisions of Section 4 shall adhere to the following schedule to achieve compliance:

†Section 4(c) is disapproved as it refers to direct fired process operations.

Allowable Sulfur Dioxide Emissions for Fuel Burning Operations

(Includes Direct Fired Process Operations)


(E_M) - Maximum Allowable Emissions - Pounds Sulfur Dioxide Per Million Btu Heat Input
$E_M = 6.0\,Q_M^{0}$
$E_P = 6.0\,Q_M^{1.00}$
$E_M = 17.0\,Q_M^{0.67}$
$E_M = 17.0\,Q_M^{-0.33}$
$E_P = 1.20\,Q_M^{1.00}$
$E_M = 1.2\,Q_M^{0}$
(Q_M) - Total Plant Equipment Capacity Rating - Millions of Btu Fuel Heat Input Per Hour
(E_P) - Maximum Allowable Emissions - Pounds Sulfur Dioxide Per Hour



Allowable Sulfur Dioxide Emissions for Process Operations
(Non-Combustion Processes)

(1) Submit a letter of intent no later than three months after this regulation is promulgated, which includes a schedule of dates for such items as submittal of plans, start of construction, and completion of construction, for achieving compliance with Sections 1, 2, and 3 of this regulation. If compliance is to be accomplished by facility shut down, it shall be so specified. This schedule, when approved by the Board, shall constitute a legally binding commitment on the company submitting it.

(2) Achieve compliance by May 31, 1978.

(3) Submit performance results by July 31, 1978.

REGULATION APC 13†

Maximum Allowable Sulfur Dioxide Emissions

Sulfur dioxide emissions from all stationary sources exceeding 10 pounds per hour without controls shall be controlled to meet rules set forth below to attain the desired air quality standards and to maintain air quality consistent with the law where it is better than the standards. The sulfur dioxide emissions for new equipment of more than 250 million Btu per hour heat input shall comply with the Federal Emission Standards. The sulfur dioxide emission from new equipment with a Btu input of 250 million Btu per hour or less and from existing equipment shall be limited to the smaller value as determined by Sections 2 and 3 below, except as provided in Section 4.

Sec. 1. All new exhaust gas stacks or chimneys emitting sulfur dioxide shall be the taller of 50 feet in height or 2½ times the height of the tallest existing building within 500 feet of the stack, provided such height shall not be in violation of other governmental regulations. The Board shall apply this rule in the case of existing stacks when there is a problem of fumigation which adversely affects health or property due to downwash from the stack.

Sec.2. Hourly ground level concentrations of sulfur dioxide emitted from such stacks or chimneys shall not exceed 200 micrograms per cubic meter by the formula:

$$C_{max} = \frac{40\ S_p\ P^{0.75}\ n^{0.25}}{a\ h_s}$$ for process operations and

†The emission limitations in this regulation apply only to Jefferson, LaPorte, Porter, Vigo and Warrick Counties.

$$C_{max} = \frac{90\ S_f\ Q_m^{0.75}\ n^{0.25}}{a\ h_s}$$ for fuel combustion operations.

Factors in these formulas are defined as follows:

(a) C_{max} = maximum ground level concentration with respect to distance and at the "critical" wind speed for level terrain, in micrograms per cubic meter, resulting from the point source. This value shall not exceed 200. Lower values may be selected where terrain and other conditions dictate.

(b) S_f = pounds of sulfur dioxide emitted per million Btu of heat input value of the fuel.

(c) S_p = pounds of sulfur dioxide emitted per ton of process weight input.

(d) Q_m = total equipment capacity rating, fuel heat input in millions of Btu per hour.

(e) p = total equipment capacity process weight input, tons per hour.

(f) n = number of stacks or chimneys in fuel burning or process operations.

(g) a = plume rise factor. The value 0.67 shall be used for all process equipment ratings and fuel-burning equipment capacity ratings of less than 1,000 million Btu heat input. No value greater than 0.8 for larger fuel-burning equipment capacities shall be used.

(h) h_s = stack height in feet. If a number of stacks with varying heights for different equipment capacity ratings exist, an average stack height to represent "n" stacks shall be calculated by dividing the sum of the height of each stack multiplied by its equipment capacity rating by the total plant capacity rating.

Sec. 3. Maximum total sulfur dioxide emissions from (1) fuel-burning operations shall be limited to that expressed by the formula $E_m = 17.0\ Q_m^{-0.33}$, where E_m equals maximum allowable sulfur dioxide in the stack gases in pounds per million Btu of heat input value of the fuel. Stack emissions shall not exceed 6.0 pounds of sulfur dioxide per million Btu input. Low-sulfur fuel may be used in lieu of control equipment, or the simultaneous use of different fuels for averaging emissions may be used to comply with this equation; and (2) process operations shall be limited to that expressed by the formula: $E_p = 19.5\ P^{0.67}$, where E_p = maximum allowable emissions in pounds per hour, and P = total equipment capacity, process weight, tons per hour.

Sec. 4. Existing sources of sulfur dioxide emissions in air quality control regions designated as Priority I and II and existing sources with a heat input of more than 250 million Btu/hr in Priority IA Regions shall comply with Sections 2 and 3 of this regulation. An "Air Quality Control Region" is defined in the November 25, 1971, Federal Register, 36 CFR 22421 through 22448, (Part 81), and Priority I, IA, and II Regions are classified in the May 31, 1972, Federal Register, 37 CFR 10863 through 10865 (Subpart P). The control that will be required for fuel-burning equipment shall not exceed that needed to reduce emissions to 1.2 pounds of sulfur dioxide per million Btu of heat input per hour. When the control of sulfur dioxide emissions at the time of design exceeds the state of the art for compliance, then the best available treatment at the time shall be applied to secure maximum reduction of the emissions.

Sec. 5. Where air quality values in an area still exceed those expressed in Regulation APC 14, the Board shall require more stringent controls in these areas than those covered by this regulation.

Sec. 6. Fuel-burning equipment and incinerators used singly or jointly by occupants of residential dwellings containing four or fewer apartments shall be exempt from these rules and limits.

Sec. 7. All new emission sources or new air pollution control equipment shall comply with this Regulation. Existing emission sources shall adhere to the following schedule:

(a) In the following Indiana Counties: Boone, Hamilton, Hancock, Hendricks, Johnson, Lake, Marion, Morgan, Porter and Shelby, sources that elect to reduce emissions of sulfur dioxide by shifting fuels shall:

Submit letter of intent by - January 1, 1973
Start construction by - May 1, 1973
Complete construction and start up by - July 1, 1973
Submit performance results by - October 1, 1973

(b) Sources in all other Indiana Counties that elect to reduce emissions of sulfur dioxide by shifting fuels shall:

Submit letter of intent by - April 1, 1973
Start construction by - September 1, 1973
Complete construction and start up by - January 1, 1974
Submit performance results by - April 1, 1974

c) All Indiana sources that elect to comply by installing control equipment shall:

Submit plans and specifications by - July 1, 1973
Start construction by - January 1, 1974
Complete construction and start up by - January 1, 1975
Submit performance results by - April 1, 1975

REGULATION APC 14

Ambient Air Quality Concentrations for Sulfur Dioxide; Particulate Matter; Carbon Monoxide; Photochemical Oxidants; Hydrocarbons; and Nitrogen Dioxide for the State of Indiana

Section 1 - Scope.

(A) The purpose of this regulation is to establish ambient air quality standards to the extent necessary to protect public health and welfare, consistent with the intent and provisions of the Indiana Air Pollution Control Law, IC 1971, 13-1-1.

(B) Further, in accordance with provisions of the Clean Air Act, 42 U.S.C. 1857 et seq., and the Environmental Protection Agency Standards, Title 40 CFR, Part 50, as amended, this is a regulation promulgating both primary and secondary air quality standards that are applicable throughout the entire state.

(1) Primary ambient air quality standards define levels of air quality which the Board judges are necessary with an adequate margin of safety to protect the public health.

(2) Secondary ambient air quality standards define levels of air quality which the Board judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

Section 2 - Standards.

The following ambient air quality standards, corrected to a reference temperature of 25°C and to a reference pressure of 760 millimeters of mercury (1,013.2 millibars), as micrograms per cubic meter (ug/m^3), shall apply:

(A) Sulfur Oxides as Sulfur Dioxide (SO_2)

(1) Primary Standards - The following values shall represent the maximum permissible ambient air quality levels:

(a) 80 ug/m^3 (0.03 ppm) annual arithmetic mean.

(b) 365 ug/m^3 (0.14 ppm) maximum 24-hour average concentration not to be exceeded more than one day per year.

(2) Secondary Standards - The following values shall represent the maximum permissible ambient air quality levels:

(a) 1,300 ug/m^3 (0.50 ppm) maximum 3-hour concentration not to be exceeded more than once per year.

(3) Sulfur dioxide values may be converted to ppm using the conversion factor 2,620 ug/m^3 = 1.0 ppm.

(B) Total Suspended Particulate (TSP)

(1) Primary Standards - The following values shall represent the maximum permissible ambient air quality levels:

(a) 75 ug/m^3 annual geometric mean.

(b) 260 ug/m^3 maximum 24-hour average concentration not to be exceeded more than one day per year.

(2) Secondary Standard - The following value shall represent maximum permissible ambient air quality levels:

(a) 150 ug/m^3 maximum 24-hour average concentration not to be exceeded more than one day per year.

(C) Carbon Monoxide (CO)

(1) Primary and Secondary Standards - The following values shall represent the maximum permissible ambient air quality levels:

(a) ~~10~~ 10 milligrams per cubic meter (10,000 ug/m^3) (9 ppm) maximum 8-hour average concentration not to be exceeded more than once per year.

(b) 40 milligrams per cubic meter (40,000 ug/m^3) (35 ppm) (maximum one-hour average concentration not to be exceeded more than once per year.

(2) Carbon monoxide values may be converted to ppm using the conversion factor 1,145 ug/m^3 = 1.0 ppm.

(D) Photochemical Oxidants (O_x)

(1) Primary and Secondary Standards - The following value shall represent the maximum permissible ambient air quality level:

(a) 160 ug/m^3 (0.08 ppm) maximum one-hour average concentration not to be exceeded more than once per year.

(2) Ozone (O_3) values may be converted to ppm using the conversion factor 1,965 ug/m^3 = 1.0 ppm.

(E) Hydrocarbons (HC)

(1) Primary and Secondary Standards as a guide in devising the implementation plans to achieve the oxidant standards. The following value shall represent the maximum permissible ambient air quality level for non-methane hydrocarbons:

(a) 160 ug/m^3 (0.24 ppm) maximum 3-hour concentration (6 a.m. to 9 a.m.) not to be exceeded more than once per year.

(2) Hydrocarbons expressed as equivalent methane (CH_4) values may be converted to ppm using the conversion factor 654 ug/m^3 = 1.0 ppm.

(F) Nitrogen Dioxide (NO_2)

(1) Primary and Secondary Standard - The following value shall represent the maximum permissible ambient air quality level:

(a) 100 ug/m^3 (0.05 ppm) annual arithmetic mean.

(2) Nitrogen dioxide values may be converted to ppm using the conversion factor 1,880 ug/m^3 = 1.0 ppm.

Section 3 - Sampling Methods and Analysis.

(A) Procedures to sample the ambient air quality in the State shall be conducted in accordance with the Environmental Protection Agency Regulations, Title 40 CFR, Part 50 and appendices as amended or other methods approved by the Board.

Section 4 - Quality Assurance.

(A) Quality assurance of sampling methods and analysis of ambient air quality samples shall be in accordance with the guidelines established by the Board and updated periodically as the needs require.

REGULATION APC 15

Maximum Allowable Hydrocarbon Emissions

Sec. 1. (Definitions) The following terms, as used in this regulation unless otherwise provided, shall have the following meanings:

(a) The term "Submerged Fill Pipe" shall mean fill pipe the discharge opening of which is entirely submerged when the liquid level is 6 inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe the discharge of which is entirely submerged when the liquid level is 18 inches or is twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank.

(b) The term "Volatile Organic Materials" shall mean any material containing carbon and hydrogen or containing carbon and hydrogen in combination with any other element which has a vapor pressure of 2.5 pounds per square inch absolute or greater under actual conditions.

Sec. 2. These regulations are applicable to all existing stationary sources located within an air quality control region designated as a Priority I Region and to all new stationary sources regardless of location. An "Air Quality Control Region" is defined in the November 25, 1971, Federal Register, 36 CFR 22421 through 22448 (Part 81), and a "Priority I Region" is classified in the May 31, 1972, Federal Register, 37 CFR 10863 through 10865 (Subpart P). Hydrocarbon emissions from all stationary sources shall be controlled to meet rules set forth herein to attain the desired air quality standards and to maintain air quality consistent with the law where it is better than the standards, and existing sources shall adhere to the following compliance schedule:

Submit plans and specifications by	- April 1, 1973
Start construction by	- January 1, 1974
Complete construction and start up by	- January 1, 1975
Submit performance results by	- April 1, 1975

Sec. 3. Storage Of Volatile Organic Materials

(a) No person shall place, store, or hold in any stationary tank, reservoir or other container of more than 40,000 gallons capacity any volatile organic material unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere or is designed and equipped with one of the following vapor loss control devices:

(1) A floating roof, consisting of a pontoon-type, double deck-type or internal floating cover, resting on the surface of the liquid contents and equipped with a closure seal or seals to close the space between the roof edge and tank wall. This control equipment shall not be permitted if the volatile organic material has a vapor pressure of 12.0 pounds per square inch absoute or greater under actual storage conditions.

(2) A vapor recovery system, consisting of a vapor gathering system capable of collecting the vapors and gases discharged and a vapor disposal system capable of processing such vapors and gases so as to prevent their emission to the atmosphere.

(3) Other equipment or means for purposes of vapor less control as may be approved by the Board.

(b) No person shall place, store or hold in any stationary storage vessel of more than 250 gallons capacity any volatile organic compound unless such vessel is equipped with a submerged fill pipe during loading operations, or is a pressure tank, or is equipped with a vapor recovery system as described in Sec. 3 (a).

Sec. 4. Volatile Organic Materials Loading Facilities

(a) No person shall load any volatile organic materials into any tank, tank car, truck, trailer, or barge from any loading facility unless such loading facility is equipped with a vapor collection and disposal system or its equivalent, properly installed, in good working order and in operation.

(b) When loading of volatile organic materials into any tank, tank car, truck, trailer, or barge through a loading arm equipped with a vapor collecting adaptor, a pneumatic, hydraulic or other mechanical means shall be provided to force a vapor-tight seal between the adaptor and the hatch. A means shall be provided to prevent liquid organic material drainage from the loading device when it is removed from the hatch of any tank, tank car, truck, trailer, or barge or to accomplish complete drainage before such removal.

(c) When loading of volatile organic materials is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which close automatically when disconnected.

(d) This rule shall not apply to the loading of volatile organic materials into tank, tank car, truck, trailer, or barge from any loading facility which handles less than 40,000 gallons of volatile organic material in any one day.

Sec. 5. Volatile Organic Liquid - Water Separators

(a) No person shall use any compartment of any single or multiple compartment volatile organic liquid - water separator which compartment normally receives effluent water containing 200 gallons per day or more of any volatile organic liquid from any equipment processing, refining, treating, storing, or handling volatile organic liquids unless such compartment is equipped with one of the following vapor loss control devices, properly installed, in good working order and in operation:

(1) A solid cover.

(2) A floating roof or cover resting on the surface of the liquid contents.

(3) A vapor recovery system of suitable design.

(4) Other equipment or means to control evaporation losses as may be approved by the Board.

(b) This rule shall not apply to any volatile organic material - water separator used exclusively in conjunction with the production of crude oil.

Sec. 6. Waste Gas Emissions

(a) Petroleum Refinery Emissions - No person shall cause or allow the discharge of hydrocarbons from any catalyst regeneration of a petroleum cracking system or from any petroleum fluid coker into the atmosphere unless the waste gas stream is burned in a direct-flame afterburner or boiler or is controlled by other means approved by the Board.

(b) Ethylene Manufacturing Emissions - No person shall emit a waste gas stream from any ethylene producing plant into the atmosphere unless the waste gas stream is properly burned in a direct-flame afterburner or is controlled by other means as may be approved by the Board.

(c) Vapor Blowdown - No person shall emit hydrocarbon gases to the atmosphere from any vapor blowdown stream, except pressure relief valves which are required for safety reasons, unless these gases are burned in flares of smokeless design or are controlled by other means as may be approved by the Board.

Sec. 7. Volatile Waste Organic Liquids

(a) No person shall dispose of any liquid or semi-liquid volatile waste organic material or sludge within the State of Indiana by any means other than as follows:

(1) Refining by acceptable means, within the scope of this regulation or other regulations that are applicable, to produce an acceptable produce for reuse.

(2) Consuming in heat generation equipment, so that its heat value can be utilized, and compliance with this regulation or other applicable regulations are met.

(3) Incineration by acceptable means if (1) and (2) above are not economically feasible. Compliance with this regulation or other regulations shall be accomplished.

(4) Other means for disposal, acceptable to the Board, but in no case discarding in a landfill, refuse dump or the equivalent.

Sec. 8. Emissions Of Organic Solvents

(a) No person shall emit or cause the emission of more than 3 pounds of organic materials in any one hour or 15 pounds of organic materials in any one day (24 hours) from any article, machine, or equipment unless all organic materials emitted from such article, machine, or equipment are reduced by at least 85 percent from emissions before the application of any control equipment or process.

(1) The aggregate emissions of organic materials into the atmosphere from any series of articles, machines, or equipment designed for processing a continuously moving sheet, web, strip, or wire by a combination of operations shall comply with the requirements of this section.

(2) Emissions of organic materials into the atmosphere which result from the cleaning of any article, machine or equipment with organic solvents shall be included with the other emissions or organic materials from such article, machine or equipment in determining compliance with this section.

(3) Emissions of organic materials into the atmosphere which result from the spontaneous drying of products after their removal from any article, machine, or equipment shall be included with other emissions of organic materials from such article, machine, or equipment in determining compliance with this section.

(b) The provisions of this section shall not apply to:

(1) The manufacture of organic solvents.

(2) The spraying or other employment of insecticides, pesticides, or herbicides.

(3) Industrial surface coating operations when the coating's solvent make-up is water-based and does not exceed 20 percent of organic materials by volume.

(4) The use of the following solvents: saturated halogenated hydrocarbons, perchlorethylene, benzene, acetone, C_1-C_5 n-paraffins, cyclohexanone, ethyl acetate, diethylamine, isobutyl acetate, isopropyl alcohol, methyl benzoate, 2-nitropropane, phenyl acetate, and triethylamine, and other organic solvents that have been determined by the Air Pollution Control Board to be photochemically unreactive in the formation of oxidants.

(c) For the purposes of this section:

(1) Organic materials are defined as chemical compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate.

(2) Organic solvents are defined as organic materials which are liquids at standard conditions, and include diluents which are used as dissolvers, viscosity reducers, and cleaning agents.

(d) A greater degree of control may be required to prevent a health hazard or a local nuisance because of the particular properties of a specific organic compound. Determination of a health hazard will be based upon such factors as threshold limit values, presence of carcinogens, and other accepted health indicators.

(e) Acceptable control methods to provide compliance shall be:

(1) Consuming such gases or vapors in acceptable fuel burning equipment.

(2) Absorption or adsorption by acceptable means.

(3) Incineration by direct flame or catalytic combustion means, preferably with heat recovery means.

(4) Oxidation by chemical means utilizing oxidizing agents or ozone, if practical.

(5) Other means acceptable to the Board.

REGULATION APC 16

Maximum Allowable Carbon Monoxide Emissions

Sec. 1. This regulation is applicable to all stationary sources of carbon monoxide (CO) emissions located within a "Basin Priority A", as defined and specified in Regulation APC 22, and to all new stationary sources regardless of location. Carbon monoxide emissions from all stationary sources shall be controlled to meet rules set forth herein to attain the desired air quality standards and to maintain air quality consistent with the law where it is better than the standards, and existing sources shall adhere to the following compliance schedule:

Submit plans and specifications by	- April 1, 1973
Start construction by	- January 1, 1974
Complete construction and start up by	- January 1, 1975
Submit performance results by	- April 1, 1975

Sec. 2. Emission of carbon monoxide shall be limited to the following:

(a) Petroleum Refining Emissions - No person shall cause or allow the discharge of carbon monoxide from any catalyst regeneration of a petroleum cracking system or from any petroleum fluid coker into the atmosphere unless the waste gas stream is burned in a direct-flame afterburner or boiler or is controlled by other means approved by the Board.

(b) Ferrous Metal Smelters - No person shall cause or allow the discharge of carbon monoxide from any grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment, having a capacity of 10 tons per hour or more process weight, unless the waste gas stream is burned in a direct-flame afterburner or boiler or is controlled by other means approved by the Board. In instances where carbon monoxide destruction is not required, carbon monoxide emissions shall be released at such elevation that the maximum ground level concentration from a single source shall not exceed 20% of the maximum one-hour Indiana ambient air quality value for carbon monoxide.

(c) Refuse Incineration and Burning Equipment - No person shall cause or allow the discharge of carbon monoxide from refuse incineration or burning equipment, unless the waste gas stream is burned in a direct-flame afterburner or is controlled by other means approved by the Board.

REGULATION APC 17

Maximum Allowable Nitrogen Oxides Emissions

Sec. 1. Emissions from all stationary sources of nitrogen oxides shall be limited to the following:

(a) No person shall cause or allow the emission of nitrogen oxides from fuel burning equipment with a capacity of 250 million Btu per hour or more in excess of the following limits:

(1) In the case of gas firing, 0.20 pounds of NO_2 per million Btu of heat input.

(2) In the case of oil firing, 0.30 pounds of NO_2 per million Btu of heat input.

(3) In the case of coal firing, 0.70 pounds of NO_2 per million Btu of heat input.

Sec. 2. This regulation is applicable to all existing stationary sources on Nitrogen Oxides emissions located within a "Basin Priority A" as defined in Regulation APC 22 and to all new stationary sources regardless of location.

REGULATION APC 19

Permits

Sec. 1. Definitions As Used In This Regulation

(a) "Stationary source" means any one machine, device, apparatus, equipment, installation, building, or other physical facility which emits or has the potential to emit any air contaminant.

(b) The term "agency" as used herein shall mean the Air Pollution Control Board of the State of Indiana.

(c) "Monitoring instrument" is a device which measures an emission concentration at a specific location in the chimney or stack.

(d) "Modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of emissions (to which a standard applies) or which results in the emission of any air contaminant not previously emitted, except that:

(1) Routine maintenance and repairs shall not be considered physical changes.

(2) The following shall not be considered a change in the method of operation:

(i) An increase in the production rate, if such increase does not exceed the operating design capacity of the affected facility.

(ii) An increase in hours of operation.

(e) "Commence" means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a binding agreement or contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

(f) "Standard" means a standard of performance proposed or promulgated by this agency.

(g) "National standard" means either a primary or secondary ambient air quality standard promulgated pursuant to Section 109 of the Clean Air Act of 1970.

(h) "Person" is as defined in IC 1971, 13-7-1.

Sec. 2. Construction Permits

(a) No person shall commence construction or modification of any stationary source after the effective date of this regulation without first obtaining approval from the agency for the location and design of such source.

(1) Application for approval to construct or modify shall be made on forms furnished by the agency or by other means prescribed by the agency.

(2) A separate application is required for each stationary source.

(3) Each application shall be signed by an authorized individual whose signature shall constitute an agreement that the applicant shall assume the responsibility of determining that the equipment shall meet the emission standards as set forth by the applicable rules and regulations of the agency.

Each application shall be accompanied by site information, plans, descriptions, specifications and drawings showing the design of the source, the nature and amount of emissions, and the manner in which it will be operated and controlled.

(4) Plans and specifications must be prepared by or approved by a professional engineer registered to practice in the State of Indiana in accordance with the provision of IC 1971, 25-31-1. This shall not apply to an installation which costs $10,000 or less.

(5) Any additional information, plans, specifications evidence, or documentation that the agency may require shall be furnished upon request.

(6) The agency may grant preliminary approval prior to commencing construction on receipt of engineering design data and site location information.

(b) No approval to construct or modify will be granted unless the applicant shows to the satisfaction of the agency that:

(1) The source will operate without causing a violation of any State regulation.

(2) The source will not prevent or interfere with attainment or maintenance of any national standard as established by the provisions of the Clean Air Act.

(3) Emissions from all stationary sources shall be controlled to meet standards set forth by regulation to attain the desired air quality and maintain air quality consistent with the law where it is better than the standards.

(c) The agency will act within 60 days on an application and will notify the applicant in writing relative to approval, conditional approval, or denial of the application. The agency will set forth its reasons for any denial.

(d) The agency may impose conditions of approval, including conditions requiring the source to be provided with, but not limited to:

(1) Sampling ports of a size, number, and location as the agency may require.

(2) Safe access to each port.

(3) Instrumentation to monitor and record emission data.

(4) Any other sampling and testing facilities.

(5) Records and reports will be maintained for all monitoring devices required by the agency in a fund that shall be stipulated or approved by the agency.

(6) The agency shall establish guidelines covering monitoring schedules, methods for monitoring emissions, and methods for calibration of monitoring instruments.

(e) The agency may cancel an approval if the construction is not begun within 2 years from the date of issuance, or if during the construction, work is suspended for a continuous period of 1 year.

(f) Within 60 days after achieving maximum production rate at which the source will be operated but not later than 180 days after initial startup of such source the person shall, if requested by the agency, conduct a performance test(s) in accordance with methods and under operating conditions approved by the agency and furnish the agency a written report of the results of such performance test.

(1) Such test shall be at the expense of the responsible person.

(2) The agency may monitor such test and may also conduct performance tests.

(3) The person responsible shall provide the agency 15 days prior notice of the performance test to afford the agency the opportunity to have an observer present.

(g) Information relating to confidential data is set forth in IC 1971, 13-7-16-3(b).

Sec. 3. Operation Permits

(a) All stationary sources in operation or production on the effective date of this regulation must have a valid operation permit. Application for these sources must be made to the agency by July 1, 1973.

(2) Applications for a permit must be made on forms provided by the agency.

(b) After the effective date of this regulation, no new stationary source or modification of an existing stationary source, shall begin operation until a valid operation permit has been issued by the agency.

(1) Applications for permits to operate must be made on forms provided by the agency and must be submitted 60 days in advance of the date the operation is to begin.

(c) The agency may specify for each permit the conditions and limitations for operation of the stationary source, including, but not limited to:

(1) Sampling ports of a size, number, and location as the agency may require.

(2) Safe access to each port.

(3) Instrumentation to monitor and record emission data.

(4) Any other sampling and testing facilities.

(5) Records and reports will be maintained for all monitoring devices required by the agency.

(6) The agency shall establish guidelines covering monitoring schedules, methods for monitoring emissions, and methods for calibration of monitoring instruments.

(d) Each application shall be signed by an authorized individual whose signature shall constitute an agreement that the applicant shall assume responsibility for operating such source in accordance with applicable rules and regulations of the agency.

(e) No approval to operate will be granted unless the applicant shows to the satisfaction of the agency that:

(1) The source will operate without causing a violation of any State regulation.

(2) The source will not prevent or interfere with attainment or maintenance of any national standard as established by the provisions of the Clean Air Act.

(3) Emissions shall be controlled to meet standards set forth by regulation to attain the desired air quality and maintain air quality consistent with the law where it is better than the standards.

(f) Permits to operate shall be effective for any period of time not to exceed four years. Applications for renewal of an operating permit must be submitted 120 days in advance of the date the permit expires.

(g) When a transfer of ownership or location occurs, a new operating permit must be requested within 60 days.

Sec. 4. Permits Not Required

(a) Operation and construction permits are not required for the following:

(1) Air conditioning or ventilation systems not designed to remove air pollutants generated by or released from equipment.

(2) Fuel burning equipment:

(i) Which uses gas or distillate oil (#1 or #2) as fuel for space heating, air conditioning, or heating water.

(ii) That is used in single or multiple dwellings containing four or less apartment units.

(iii) That has a heat input of not more than 1,500,000 BTU per hour.†

(3) Laboratory fume hoods which discharge to the atmosphere.

(4) Other sources of minor significance specified by the agency such as:

†This section is disapproved to the extent that it exempts coal burning equipment with a heat input of between 350,000 and 1,500,000 Btu per hour from pre-construction/modification review.

Particulate matter, 5 pounds per hour or 25 pounds per day.
Sulfur dioxide, 10 pounds per hour or 50 pounds per day.
Nitrogen oxides, 5 pounds per hour or 25 pounds per day.
Hydrocarbons, 3 pounds per hour or 15 pounds per day.
Carbon monoxide, 50 pounds per hour or 250 pounds per day.

Emissions to be calculated by the agency by use of emission factors contained in the latest edition of "Compilation of Air Pollution Factors," published by the United States Environmental Protection Agency, or as calculated by the agency based on stack test data or other data acceptable to the agency; or as agreed upon between the agency and the source owner.

Sec. 5. Permit Revocation

(a) Any permit granted by the agency may be revoked or modified in accordance with IC 1971, 13-7-10-5.

Sec. 6. Permit No Defense

(a) The issuance and possession of any permit shall not constitute a defense of a violation of any law, regulation or standard.

Sec. 7. Local Jurisdiction

(a) Nothing contained in this regulation shall be deemed to affect or modify the terms or requirements of any ordinance or regulation of any governmental unit within the State of Indiana which provides for equal or more restrictive requirements and any governmental unit having such a regulation or ordinance may be delegated the duties otherwise designated herein as those of the agency subject to qualifications as the agency may require.

Sec. 8. Validity

(a) If any section, paragraph, sentence, clause, phrase, or word of this regulation, or any other part thereof, be declared unconstitutional or invalid for any reason, the remainder of said regulation shall not be affected thereby and shall remain in full force and effect.

Sec. 9. Repeal

(a) This regulation shall, upon promulgation, repeal Regulation APC 1 covering reports, plans and specifications, promulgated December 6, 1968, as found in Burns Administrative Rules and Regulations (1972 Supp.) (35-4604-1).

REGULATION APC 20

Maximum Allowable Fugitive Dust

A Regulation concerning the generation of fugitive dust from activities of industrial, commercial, governmental, private, and other operations within the State of Indiana.

Sec. 1. Definitions

(a) Fugitive Dust - The generation of particulate matter to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way or easement on which the source is located.

(b) Respirable Dust - Particles in the range of 0.5 microns to 6.0 microns in diameter.

Sec. 2. Allowable Emissions - A source or sources generating fugitive dust shall be said to be in violation of this regulation if any of the following criteria are violated:

(a) Maximum Allowable Particles - A source or combination of sources caused to exist fugitive dust concentrations greater than 67% in excess of ambient upwind concentrations as determined by the following formula:

$$P = \frac{100\ (R-U)}{U}$$

P = Percentage increase

R = Number of particles of fugitive dust measured at downwind receptor site

U = Number of particles of fugitive dust measured at upwind or background site

(b) Potential Respiratory Damage - The fugitive dust is comprised of 50% or more respirable dust, then the percent increase of dust concentration in Section 2(a) shall be modified as follows:

$$P_R = (1.5 - N) P$$

Where N = Fraction of fugitive dust that is respirable dust; P_R = allowable percentage increase in dust concentration above background; and P = no value greater than 67%.

(c) Ambient Air Concentrations - The ground level ambient air concentrations exceed 50 micrograms per cubic meter above background concentrations for a 60-minute period.

Sec. 3. Applicability

(a) This regulation shall apply to all sources of fugitive dust.

(b) The allowable particles shall refer to the total of all particles leaving the boundaries or crossing the property line of any source of fugitive dust regardless of whether from a single operation or a number of operations. If the source is determined to be comprised of two or more legally separate persons, each shall be held proportionately responsible on the basis of contributions by each person as determined by microscopic analysis. In such cases, samples shall be taken downwind from the combination of sources and at the fence line of each source.

(c) No source which is contributing to a combined downwind fugitive dust concentration in excess of the limits of this regulation shall be required to reduce emissions if the concentrations at his property line are in compliance unless all contributors are individually in compliance and a combined fugitive dust concentration still exceeds the limits of this regulation. Each source shall then be required to reduce its emissions by like percentages to achieve an acceptable combined downwind concentration.

(d) When all contributors are individually in compliance and no nuisance to the surrounding community is created, the Board may waive the requirement for further reduction in emissions by combined contributors.

(e) All sources must comply with this regulation as soon as practicable but no later than July 1, 1974.

Sec. 4. Mobile Fugitive Dust Sources - No vehicle shall be driven or moved on any public street, road, alley, highway, or other thoroughfare, unless such vehicle is so constructed as to prevent its contents from dripping, sifting, leaking, or otherwise escaping therefrom so as to create conditions which result in fugitive dust. This section applies only to the cargo any vehicle may be conveying and mud tracked by the vehicle.

Sec. 5. Methods of Measurement

(a) Particle Numbers and Sizes - Particle quantities and sizes will be measured by manual microscopic analysis of a dustfall sample collected on a sticky slide or by use of commercially available particle counting devices which count and classify particles by micron size range, or other methods acceptable to the Board.

(b) Ambient Air Concentrations - Ambient air concentrations shall be measured using the standard Hi Volume Sampling and Analysis Techniques as specified by EPA in April 30, 1971, Federal Register.

(c) Visible Emissions - Observations by a qualified representative of the Board of visible emissions crossing the property line of the source at or near ground level.

Sec. 6. Exceptions - The following conditions will be considered as exceptions to this regulation and therefore not in violation:

(a) Release of steam not in combination with any other gaseous or particulate pollutants unless the condensation from said steam creates a nuisance or hazard in the surrounding community.

(b) Fugitive dust from publicly maintained unpaved thoroughfares where no nuisance or health hazard is created by its usage or where it is demonstrated to the Board that no means are available to finance the necessary road improvements immediately. A reasonable long-range schedule for necessary road improvements must be submitted to support the Board's granting such an exception.

(c) Fugitive dust from construction or demolition where every reasonable precaution has been taken in minimizing fugitive dust emissions.

(d) Fugitive dust generated from agricultural operations providing every reasonable precaution is taken to minimize emissions and providing operations are terminated if a severe health hazard is generated because of prevailing meteorological conditions.

(e) Visible plumes from a stack or chimney which provide adequate dispersion and are in compliance with other applicable regulations.

(f) Fugitive dust from a source caused by adverse meteorological conditions.

REGULATION APC 22

Establish air quality basins and priority ratings for sulfur dioxide; particulate matter; carbon monoxide; photochemical oxidants/hydrocarbons; and nitrogen dioxide

Sec. 1. In addition to the definitions contained in IC 1971, 13-7 and IC 1971, 13-1-1, the following definitions shall apply herein:

(a) "Basin Priority A" shall mean any area of land (county) wherein the ambient air concentration for a specific contaminant or pollutant is equal to or in excess of the primary air quality standard as specified in regulation APC 14.

(b) "Basin Priority B" shall mean any area of land (county) wherein the ambient air concentration for a specific contaminant or pollutant is equal to or in excess of the secondary air quality standard but is less than the primary air quality standard as specified in regulation APC 14.

(c) "Basin Priority C" shall mean any area of land (county) wherein the ambient air concentration for a specific contaminant or pollutant is less than the secondary air quality standards as specified in regulation APC 14.

Sec. 2. As authorized by I.C. 1971, 13-7-7-2 the air quality of each county within the State of Indiana has been determined through a study of the ambient air quality data; topography, demography; stack heights of major emission sources; proximity concentration of two or more emission sources; computer simulated air quality display models; and other methods for evaluating contaminants from stationary sources for particulate matter (Pt), sulfur dioxide (SO_2), photochemical oxidants/hydrocarbons (O_3), carbon monoxide (CO) and nitrogen dioxide (NO_2).

Sec. 3. The Basin Priority rating as specified herein shall be used to denote those basins (counties):

(a) where program emphasis shall be directed,

(b) where emission control regulations or provisions within such regulations shall be applied or modified to achieve the specified Indiana Air Quality Standards, and

(c) where applicable regulations or provisions of such regulations shall be applied to maintain the air quality where such is better than the secondary standards.

Sec. 4. Each of the following listed counties (basins) are assigned the designated "Basin Priority" rating for the specifically listed contaminant (pollutant).

Basin Number	Basin (County)	Pt††	SO_2	O_3†	CO	NO_2
AQB01	Adams	C	C	C	C	C
AQB02	Allen	B	C	C	C	C
AQB03	Bartholomew	C	C	C	C	C
AQB04	Benton	C	C	C	C	C
AQB05	Blackford	B	C	C	C	C
AQB06	Boone	C	C	C	C	C
AQB07	Brown	C	C	C	C	C
AQB08	Carroll	C	C	C	C	C
AQB09	Cass	C	C	C	C	C
AQB10	Clark	B	C	C	C	C
AQB11	Clay	C	C	C	C	C
AQB12	Clinton	C	C	C	C	C
AQB13	Crawford	C	C	C	C	C
AQB14	Daviess	C	C	C	C	C
AQB15	Dearborn	B	B	C	C	C
AQB16	Decatur	C	C	C	C	C
AQB17	Dekalb	C	C	C	C	C
AQB18	Delaware	B	C	C	C	C
AQB19	Dubois	C	C	C	C	C
AQB20	Elkhart	B	C	C	C	C

Basin Number	Basin (County)	Pt††	SO_2	O_3†	CO	NO_2
AQB21	Fayette	C	C	C	C	C
AQB22	Floyd	B	C	C	C	C
AQB23	Fountain	C	C	C	C	C
AQB24	Franklin	C	C	C	C	C
AQB25	Fulton	C	C	C	C	C
AQB26	Gibson	C	C	C	C	C
AQB27	Grant	B	C	C	C	C
AQB28	Greene	C	C	C	C	C
AQB29	Hamilton	C	C	C	C	C
AQB30	Hancock	C	C	C	C	C
AQB31	Harrison	C	C	C	C	C
AQB32	Hendricks	C	C	C	C	C
AQB33	Henry	C	C	C	C	C
AQB34	Howard	B	C	C	C	C
AQB35	Huntington	C	C	C	C	C
AQB36	Jackson	C	C	C	C	C
AQB37	Jasper	C	C	C	C	C
AQB38	Jay	C	C	C	C	C
AQB39	Jefferson	C	C†	C	C	C
AQB40	Jennings	B	C	C	C	C
AQB41	Johnson	C	C	C	C	C
AQB42	Knox	C	C	C	C	C
AQB43	Kosciusko	C	C	C	C	C
AQB44	LaGrange	C	C	C	C	C
AQB45	Lake	A	A	A	C	C
AQB46	LaPorte	C	C†	C	C	C
AQB47	Lawrence	B	C	C	C	C
AQB48	Madison	B	C	C	C	C
AQB49	Marion	A	B	A	C	C
AQB50	Marshall	C	C	C	C	C
AQB51	Martin	C	C	C	C	C
AQB52	Miami	C	C	C	C	C

Basin Number	Basin (County)	Pt††	SO_2	O_3†	CO	NO_2
AQB53	Monroe	B	C	C	C	C
AQB54	Montgomery	C	C	C	C	C
AQB55	Morgan	B	C	C	C	C
AQB56	Newton	B	C	C	C	C
AQB57	Noble	C	C	C	C	C
AQB58	Ohio	C	C	C	C	C
AQB59	Orange	C	C	C	C	C
AQB60	Owen	C	C	C	C	C
AQB61	Parke	C	C	C	C	C
AQB62	Perry	B	C	C	C	C
AQB63	Pike	C	C	C	C	C
AQB64	Porter	B	C†	C	C	C
AQB65	Posey	C	C	C	C	C
AQB66	Pulaski	C	C	C	C	C
AQB67	Putnam	B	C	C	C	C
AQB68	Randolph	C	C	C	C	C
AQB69	Ripley	C	C	C	C	C
AQB70	Rush	B	C	C	C	C
AQB71	St. Joseph	B	C	C	C	C
AQB72	Scott	C	C	C	C	C
AQB73	Shelby	C	C	C	C	C
AQB74	Spencer	C	C	C	C	C
AQB75	Starke	C	C	C	C	C
AQB76	Steuben	B	C	C	C	C
AQB77	Sullivan	C	C	C	C	C
AQB78	Switzerland	C	C	C	C	C
AQB79	Tippecanoe	B	C	C	C	C
AQB80	Tipton	C	C	C	C	C
AQB81	Union	C	C	C	C	C
AQB82	Vanderburgh	B	C	C	C	C
AQB83	Vermillion	C	C	C	C	C
AQB84	Vigo	B	C†	C	C	C

Basin Number	Basin (County)	Pt††	SO_2	O_3†	CO	NO_2
AQB85	Wabash	B	C	C	C	C
AQB86	Warren	C	C	C	C	C
AQB87	Warrick	C	B†	C	C	C
AQB88	Washington	C	C	C	C	C
AQB89	Wayne	B	C	C	C	C
AQB90	Wells	C	C	C	C	C
AQB91	White	C	C	C	C	C
AQB92	Whitley	C	C	C	C	C

Sec. 5. That the Air Pollution Control Board shall redesignate ratings for counties where an appropriate change in air quality has been demonstrated or where emission levels or other factors indicate the necessity for such priority changes. The Regional Office must approve all re-classification.

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† Classifications of these five counties for SO_2 do not meet the requirements of §51.3(a); classifications of all counties for O_3 do not meet requirements. See 41FR35677, 6/24/76.

†† Classifications of all counties for particulate matter do not meet requirements. See 40FR50033, 10/28/75